

## **July 2009 Report: What is the data is telling us about shorebird populations in Australia**

*Rob Clemens, Shorebirds 2020 Technical Manager*

In the short term the data are telling us a great deal about the distribution and abundance of shorebirds throughout Australia, and in some cases the changes that have occurred in areas that have not been surveyed in decades are obvious.

The most obvious example of changes in Australian shorebird distributions have been the declining abundance of shorebirds at non-coastal wetlands in southern Australia. After nearly 10 years of drought, many wetlands have dried out, while others are becoming degraded due to a lack of freshwater inflows. It is, therefore, not surprising that shorebirds are less abundant in the non-coastal wetlands of southern Australia (Nebel et al. 2008). However, this summer's remarkable count coverage allowed us to further quantify those changes in abundance at inland wetlands. Twenty-nine shorebird areas were identified in southern Australia that were non-coastal wetlands that had been counted in the 1980's and again this past summer (Figure 1). This past summer's count marked the first time in many years that most of these areas have been surveyed.

In the 1980's the number of surveys varied between sites, so the average maximum summer count from 1980-89 was used for comparison. The results of this simple comparison suggest that in southern Australia, shorebird numbers at non-coastal wetlands have decreased by nearly 80% (Table 1 & 2), and other species have declined by anywhere from 50% to 99%. The only exception to this in the areas surveyed was the Pacific Golden Plover, which may have been recorded in higher numbers in wetlands adjacent to the coast this past summer because coverage was better, and there was less water around so there was less potential habitat to search for what can be an elusive species. The Coorong data (not included in these comparisons) is showing similarly large declines in many shorebird species, with the notable exception of Banded Stilts which have been recorded in the Coorong in numbers exceeding 170,000 this year. The Banded Stilt is one of the few shorebirds tolerant of the increasing salinity of the much of the Coorong (especially the southern half). The Coorong data was not included in these comparisons because there is much better data to draw from and annual reporting of the changes occurring in the area due to less freshwater inflows (Brookes et al. 2009, Gosbell 2005).

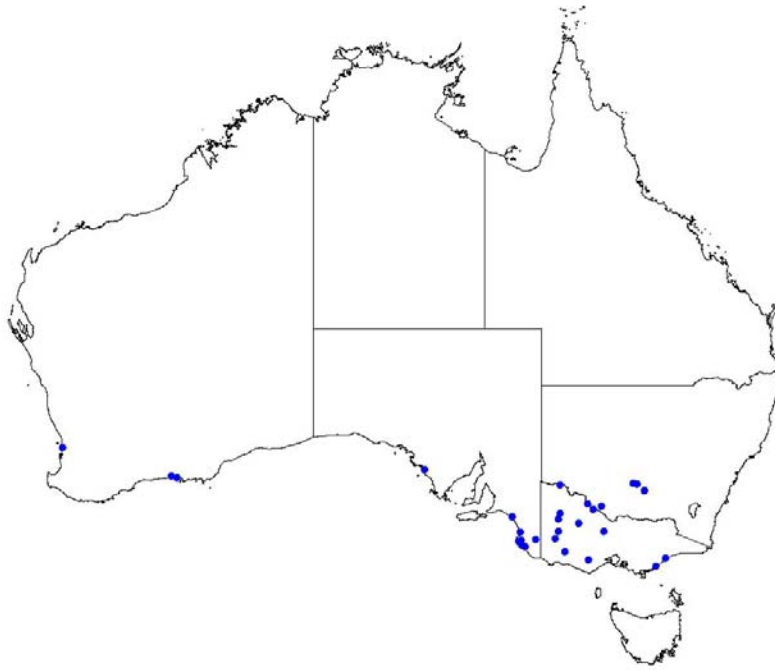


Figure 1. Location of 29 non-coastal wetlands where shorebird counts were compared between the 1980's and the summer of 2008-2009.

Table 3. Comparison of counts in the 1980's with those recorded in the summer of 2008-2009 at 29 inland wetlands for selected species.

Species	Average max annual summer count 1980's			Summer 2008-2009 count			Wilcoxon Rank-Sum p - value
	MEAN (N=29)	SE	Total	MEAN (n=29)	SE	Total	
Black-fronted Dotterel	6.0	2.0	171	1.4	1.0	41	0.0007
Black-winged Stilt	153.9	69.6	4379	29.3	13.5	850	0.0006
Common Greenshank	15.5	4.0	416	2.8	1.2	82	0.0003
Curlew Sandpiper	107.1	43.0	3107	0.2	0.2	5	0.0000
Marsh Sandpiper	8.5	2.9	245	0.6	0.4	16	0.0001
Masked Lapwing	101.1	37.2	2930	24.3	6.9	706	0.0031
Pacific Golden Plover	0.2	0.2	7	5.8	4.0	169	0.9531
Red-capped Plover	136.4	29.1	3955	73.0	31.3	2116	0.0022
Red-kneed Dotterel	15.0	4.4	418	1.8	0.9	53	0.0004
Red-necked Avocet	94.3	26.1	2733	12.7	7.6	367	0.0000
Red-necked Stint	457.1	156.2	13256	267.6	124.4	7759	0.0027
Sharp-tailed Sandpiper	396.5	124.0	11417	28.1	20.4	814	0.0000
<b>TOTAL all shorebirds</b>	<b>2373.4</b>	<b>563.3</b>	<b>68595</b>	<b>487.6</b>	<b>164.8</b>	<b>14140</b>	<b>0.0000</b>

For the areas where changes have not been as drastic, it will take up to five years to generate enough data to show national shorebird trends. In the meantime there are many things that can be reported that will add to the evidence regarding how shorebird populations are tracking. First, in areas where standardised counts are happening, simply reporting on the changes in the numbers seen each year will allow some understanding of how much shorebird populations are being affected by things like habitat destruction in the flyway. The recent count of the whole of 80-mile beach in northwest Australia provides an excellent example of the power of simply reporting changes in two complete annual counts (Rogers et al. 2009). Second, reporting trends from shorebird areas with historic data needs to continue, and be expanded to include those areas that have not yet been reported on individually. This process will building

on the evidence of population trends which will also result in a more completely vetted set of data from each shorebird area. While over 20 areas have reported trends (Gosbell and Clemens 2006), there remain a handful with historic data which needs to be fully vetted and reported on. Where data at individual sites has been collected in the same way for longer periods more rigorous reporting is possible, and there are encouraging signs that using new analytical techniques might allow these data to be used more fully (Fuller et al. 2009, Rogers et al. 2009). Together these steps will help increase our understanding of shorebird population trends in Australia, while we work to make more conclusive data available to report on national trends.

The number of areas visited this last summer, and the amount of data generated will provide a useful foundation to planners and managers for years to come. The increasingly spatial explicit data will be especially useful for planners, and those looking to do habitat analysis in order to further explore what is driving population changes. However, these data will only be useful for population monitoring if counts are standardised. If the same areas are not counted by similarly skilled personnel, in the same way, under the same conditions, the utility of these data will be diminished for monitoring populations. In fact a quick glance at this year's data from many of the new sites when compared to last years, suggests that shorebird numbers are increasing. This, however, is thought to be more likely a function of having many new observers getting involved in the counts, which is allowing for greater coverage of these areas, and those observers are also getting better at finding the shorebirds in each area. This learning process will likely take one to several years for the large shorebird areas that can not be completely counted. Therefore, patience is required before drawing too many conclusions from the counts being initiated in new areas, and by new shorebird observers.

The need to determine what precisely is happening to shorebird populations is growing. When all available sources were recently reviewed there was evidence of 21 shorebird species decreasing in at least one area in Australia, while only four species were showing evidence of increases in at least one area (Oldland et al. 2009). Given the large population declines being reported in shorebirds and the threats to shorebirds, it is critical that we build on the evidence of what is happening so that improved knowledge can guide management and conservation of shorebird habitat (Gosbell and Clemens 2006, Oldland et al. 2009).

**Table 2: Change in shorebird numbers at inland wetlands of southern Australia; comparisons of average maximum summer count from the 1980's and the counts from the same areas in the summer of 2008-2009**

	NSW	NSW	NSW	NSW	NSW	NSW	NSW	NSW	NSW	SA	SA	SA	SA	SA	SA
	Barren Box Swamp	Barren Box Swamp	Fivebough Swamp	Fivebough Swamp	Nericon Swamp	Nericon Swamp	Tullakool Saltworks	Tullakool Saltworks		Bool lagoon	Bool Lagoon	Lake Eliza	Lake Eliza	Lake George	Lake George
N of annual counts in 1980's year	3	1	7	1	4	1	4	1		5	1	3	1	7	1
	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009		Avg 80's	2009	Avg 80's	2009	Avg 80's	2009
Banded Lapwing	0		1		0		0			0		0		0	
Banded Stilt	0	0	1	4	0	0	1	0		2	0	1667	0	8376	0
Bar-tailed Godwit	0	0	1	0	0	0	19	0		0	0	0	0	0	0
Black-fronted Dotterel	2	7	14	0	3	0	0	0		1	0	0	0	1	0
Black-tailed Godwit	0	0	1	0	3	0	1	0		0	0	0	0	0	0
Black-winged Stilt	84	10	206	0	41	0	413	250		111	0	12	0	2	0
Common Greenshank	34	7	12	0	1	0	52	2		25	0	0	0	91	25
Common Sandpiper	0	0	1	0	0	0	0	0		0	0	0	0	0	0
Curlew Sandpiper	0	0	2	0	0	0	60	0		1	0	0	5	994	0
Double-banded Plover	0	0	0	0	0	0	0	0		1	0	0	0	1	0
Eastern Curlew	0	0	0	0	0	0	7	0		0	0	0	0	0	0
Great Knot	0	0	0	0	0	0	0	0		0	0	0	0	1	0
Grey Plover	0	0	0	0	0	0	0	0		0	0	0	0	1	0
Hooded Plover	0	0	0	0	0	0	0	0		3	0	1	0	4	2
Latham's Snipe	1		1		0		0	0		0		1		0	
Lesser Sandplover	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Little Curlew	0		0		0		0			0		0		0	
Long-toed Stint	0		1		0		0			0		0		0	
Marsh Sandpiper	1	0	50	0	28	0	44	9		1	0	0	0	0	0
Masked Lapwing	3	25	55	37	9	0	68	2		1080	0	1	49	66	26
Oriental Plover	0		0		0		0			0		0		0	
Pacific Golden Plover	0	0	1	0	0	0	0	0		0	0	0	90	1	0
Pectoral Sandpiper	0		1		0		1			0		0		0	
Pied Oystercatcher	0	0	0	0	0	0	1	0		0	0	0	0	0	0
Red Knot	0	0	0	0	0	0	0	0		0	0	0	0	16	0
Red-capped Plover	2	25	37	2	50	0	414	100		55	0	1	259	176	93
Red-kneed Dotterel	17	2	60	14	11	0	9	7		8	0	0	0	2	0
Red-necked Avocet	1	1	63	0	42	0	230	0		7	0	29	0	116	1
Red-necked Stint	0	0	3	0	3	0	58	300		11	0	0	692	4170	1081
Ruddy Turnstone	0	0	1	0	0	0	0	0		5	0	0	0	0	0
Ruff	0		1		0		1			0		0		0	
Sanderling	0	0	0	0	0	0	0	0		34	0	0	0	10	0
Sharp-tailed Sandpiper	82	3	527	6	248	0	701	70		253	0	0	50	1139	0
Sooty Oystercatcher	0	0	0	0	0	0	1	0		0	0	0	0	0	0
Wood Sandpiper	0		7		0		0			1		0		0	
unidentified	6	0	14	0	8	0	8	0		10	0	6	0	14	8
<b>TOTAL</b>	<b>232</b>	<b>80</b>	<b>1053</b>	<b>63</b>	<b>446</b>	<b>0</b>	<b>2087</b>	<b>740</b>		<b>1608</b>	<b>0</b>	<b>1716</b>	<b>1145</b>	<b>15179</b>	<b>1236</b>

	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	VIC	VIC	VIC	VIC
	Lake Hawdon	Lake Hawdon	Lake Robe	Lake Robe	Lake St Clair	Lake St Clair	Mullins Swamp	Mullins Swamp	Nadzab Lagoon	Nadzab Lagoon	Bendigo Sewage Farm	Bendigo Sewage Farm	Douglas area (Wimmera)	Douglas area (Wimmera)	
N of annual counts in 1980's year	2	1	4	1	1	1	5	1	4	1	4	1	8	1	
	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	
Banded Lapwing	0		0		0		0		0		0		0		
Banded Stilt	0	0	75	0	0	0	29	0	250	0	0	0	2574	0	
Bar-tailed Godwit	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
Black-fronted Dotterel	14	0	0	0	0	0	0	0	0	0	54	29	3	0	
Black-tailed Godwit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Black-winged Stilt	0	1	11	0	0	0	83	0	0	0	62	26	1	0	
Common Greenshank	21	11	0	0	2	0	46	0	0	0	0	0	0	0	
Common Sandpiper	1	0	0	0	0	0	0	0	0	0	1	0	0	0	
Curlew Sandpiper	1	0	0	0	0	0	143	0	5	0	1	0	1	0	
Double-banded Plover	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
Eastern Curlew	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Great Knot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grey Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hooded Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Latham's Snipe	0		0		0		0		0		1		0		
Lesser Sandplover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Little Curlew	0		0		0		0		0		0		0		
Long-toed Stint	0		0		0		0		0		0		0		
Marsh Sandpiper	0	0	0	0	0	0	1	0	0	0	1	0	0	0	
Masked Lapwing	32	84	11	16	0	23	129	0	9	0	116	0	81	0	
Oriental Plover	0		0		0		0		0		0		0		
Pacific Golden Plover	0	0	0	0	0	78	0	0	0	0	0	0	0	0	
Pectoral Sandpiper	0		0		0		3		0		0		0		
Pied Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red Knot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red-capped Plover	5	37	37	25	0	33	0	0	163	0	0	15	114	0	
Red-kneed Dotterel	0	0	0	0	0	0	20	0	0	0	57	19	1	0	
Red-necked Avocet	0	0	13	0	0	0	82	0	0	0	3	0	20	0	
Red-necked Stint	20	0	690	0	0	13	327	0	114	0	5	5	45	0	
Ruddy Turnstone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ruff	0		0		0		0		0		0		0		
Sanderling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sharp-tailed Sandpiper	0	0	25	0	0	0	224	0	4	0	40	0	25	0	
Sooty Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wood Sandpiper	0		0		0		2		0		0		0		
unidentified	4	0	8	0	2	0	10	0	8	0	8	0	16	0	
<b>TOTAL</b>	<b>95</b>	<b>133</b>	<b>871</b>	<b>41</b>	<b>4</b>	<b>147</b>	<b>1098</b>	<b>0</b>	<b>552</b>	<b>0</b>	<b>349</b>	<b>94</b>	<b>2880</b>	<b>0</b>	



	VIC		VIC		VIC		VIC		VIC		VIC		VIC		VIC	
	Hamilton	Hamilton	Jack Smith Lake	Jack Smith Lake	Kerang Lakes	Kerang Lakes	Lake Albacutya	Lake Albacutya	Lake Buloke	Lake Buloke	Lake Corangamite area	Lake Corangamite area	Lake Hindmarsh	Lake Hindmarsh		
N of annual counts in 1980's year	2	1	4	1	5	1	5	1	4	1	5	1	4	1		
	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009
Banded Lapwing	0		0		8		0		0		3		0			
Banded Stilt	1	0	0	0	343	0	0	0	0	0	1814	0	1	0		
Bar-tailed Godwit	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Black-fronted Dotterel	0	0	0	0	6	0	9	0	1	0	0	0	8	0		
Black-tailed Godwit	0	0	0	0	1	0	1	0	0	0	0	0	0	0		
Black-winged Stilt	30	4	5	0	271	0	67	0	291	0	286	40	39	0		
Common Greenshank	0	1	6	0	9	0	2	0	5	0	1	0	2	0		
Common Sandpiper	0	0	0	0	0	0	0	0	0	0	1	0	0	0		
Curlew Sandpiper	0	0	75	0	536	0	17	0	30	0	652	0	19	0		
Double-banded Plover	0	0	1	2	1	0	0	0	0	0	0	0	0	0		
Eastern Curlew	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Great Knot	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grey Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hooded Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Latham's Snipe	0		0		0		1		0		0		0			
Lesser Sandplover	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Little Curlew	0		0		1		0		0		0		0			
Long-toed Stint	0		0		0		0		0		0		0			
Marsh Sandpiper	0	0	1	0	38	0	5	0	5	0	0	0	1	0		
Masked Lapwing	222	56	61	30	88	0	39	0	218	0	125	168	37	0		
Oriental Plover	0		13		0		0		0		0		0			
Pacific Golden Plover	0	0	0	0	0	0	0	0	0	0	4	0	0	0		
Pectoral Sandpiper	0		0		1		0		0		0		0			
Pied Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Red Knot	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
Red-capped Plover	30	0	33	55	378	0	140	0	265	0	71	450	61	0		
Red-kneed Dotterel	1	10	1	0	17	0	53	0	8	0	0	0	42	0		
Red-necked Avocet	12	0	0	0	244	0	138	0	381	0	11	15	168	0		
Red-necked Stint	1	0	913	37	681	0	86	0	3	0	1177	2791	54	0		
Ruddy Turnstone	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Ruff	0		0		1		0		0		0		0			
Sanderling	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sharp-tailed Sandpiper	2	15	191	0	1857	0	194	0	3019	0	1324	592	75	0		
Sooty Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Wood Sandpiper	0		0		0		0		0		0		0			
unidentified	4	0	8	0	10	0	10	0	8	0	10	0	8	0		
<b>TOTAL</b>	<b>301</b>	<b>86</b>	<b>1310</b>	<b>124</b>	<b>4487</b>	<b>0</b>	<b>761</b>	<b>0</b>	<b>4232</b>	<b>0</b>	<b>5478</b>	<b>4056</b>	<b>514</b>	<b>0</b>		

	VIC	VIC	VIC	VIC	VIC	VIC	WA	WA	WA	WA	VIC	VIC	WA	WA
	Lake Wyn Wyn area	Lake Wyn Wyn area	Mildura	Mildura	Swan Hill	Swan Hill	Lake Gore	Lake Gore	Warden Lakes	Warden Lakes	Lake Reeve	Lake Reeve	Swan Coastal Plain Lakes	Swan Coastal Plain Lakes
N of annual counts in 1980's year	6	1	4	1	4	1	3	1	4	1	5	1	9	1
	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009
Banded Lapwing	0		76		0	149	0		0					2
Banded Stilt	5207	0	534	0	37	0	378	32	950	200	0	0	192	2
Bar-tailed Godwit	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Black-fronted Dotterel	17	0	16	0	1	0	0	0	5	2	0	0	19	3
Black-tailed Godwit	0	0	1	0	1	0	0	0	0	0	0	0	1	0
Black-winged Stilt	56	0	222	260	152	58	0	5	5	0	0	0	2013	191
Common Greenshank	1	0	40	0	6	5	6	6	35	0	12	3	40	22
Common Sandpiper	0	0	1	0	0	0	1	1	3	1	0	0	1	1
Curlew Sandpiper	5	0	27	0	222	0	7	0	19	0	3	0	226	0
Double-banded Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eastern Curlew	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Great Knot	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grey Plover	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Hooded Plover	0	0	0	0	0	0	131	0	106	6	0	0	1	0
Latham's Snipe	0		0		0		0		0					
Lesser Sandplover	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Curlew	0		0		0		0		0					
Long-toed Stint	0		0		0		0		0				17	1
Marsh Sandpiper	1	0	25	0	37	7	0	0	0	0	0	0	8	0
Masked Lapwing	77	0	150	54	227	43	0	0	0	7	8	14	0	0
Oriental Plover	0		0		0		0		0					
Pacific Golden Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pectoral Sandpiper	0		0		0		0		0				1	1
Pied Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Knot	0	0	0	0	0	0	0	0	13	0	0	0	0	0
Red-capped Plover	243	0	175	82	240	32	165	0	53	18	13	0	614	800
Red-kneed Dotterel	11	0	96	0	20	0	0	0	0	0	0	0	3	1
Red-necked Avocet	17	0	525	173	61	0	3	6	37	0	0	0	433	29
Red-necked Stint	120	0	149	0	355	108	237	0	265	10	928	2212	1443	66
Ruddy Turnstone	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruff	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sanderling	0	0	0	0	0	0	0	33	0	0	0	0	0	0
Sharp-tailed Sandpiper	302	0	251	64	238	12	0	0	51	0	361	0	177	2
Sooty Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood Sandpiper	0		1		0		0		0				13	
unidentified	12	0	8	0	8	0	6	0	8	0	0	0	0	0
<b>TOTAL</b>	<b>6068</b>	<b>0</b>	<b>2294</b>	<b>633</b>	<b>1601</b>	<b>414</b>	<b>935</b>	<b>83</b>	<b>1548</b>	<b>244</b>	<b>1323</b>	<b>2229</b>	<b>5206</b>	<b>1120</b>

	SA		Total		SA	
	Lake Newland	Lake Newland			Coorong	Coorong
N of annual counts in 1980's year	1	1	various	1	5	1
	Avg 80's	2009	Avg 80's	2009	Avg 80's	2009
Banded Lapwing		2	89	151	50	
Banded Stilt	2400	304	24830	542	18591	170024
Bar-tailed Godwit	0	0	22	0	3	
Black-fronted Dotterel	0	0	171	41	7	
Black-tailed Godwit	0	0	10	0	64	
Black-winged Stilt	0	5	4379	850	263	341
Common Greenshank	2	0	416	82	270	382
Common Sandpiper	0	0	10	3	3	
Curlew Sandpiper	62	0	3107	5	10647	41
Double-banded Plover	0	0	5	2	0	1
Eastern Curlew	0	0	7	0	8	47
Great Knot	0	0	1	0	2	
Grey Plover	0	5	3	5	1	
Hooded Plover	0	6	246	14	59	30
Latham's Snipe			4	0	1	
Lesser Sandplover	0	6	0	6	0	
Little Curlew			1	0	0	
Long-toed Stint			18	1	0	
Marsh Sandpiper	0	0	245	16	2	1
Masked Lapwing	24	72	2930	706	553	402
Oriental Plover			13	0	5	
Pacific Golden Plover	0	0	7	169	128	3
Pectoral Sandpiper			7	1	0	
Pied Oystercatcher	0	25	1	25	344	118
Red Knot	0	0	30	0	25	
Red-capped Plover	423	90	3955	2116	2016	1075
Red-kneed Dotterel	0	0	418	53	6	4
Red-necked Avocet	100	142	2733	367	1824	186
Red-necked Stint	1400	444	13256	7759	21180	3355
Ruddy Turnstone	0	0	6	0	1	
Ruff	0	0	3	0	0	
Sanderling	0	304	44	337	271	87
Sharp-tailed Sandpiper	192	0	11417	814	15872	3009
Sooty Oystercatcher	0	16	1	16	9	11
Wood Sandpiper			24	0	1	1
unidentified	0	51	216	59	10	313
<b>TOTAL</b>	<b>4603</b>	<b>1472</b>	<b>68595</b>	<b>14140</b>	<b>72213</b>	<b>179431</b>

## References

- Brookes, J.D., Lamontagne, S., Aldridge, K. T., Bengert, S., Bissett, A., Bucater, L., Cheshire, A.C., Cook, P.L.M., Deegan, B.M., Dittmann, S., Fairweather, P.G., Fernandes, M.B., Ford, P.W., Geddes, M.C., Gillanders, B.M. , Grigg, N.J., Haese, R.R., Krull, E., Langley, R.A., Lester, R.E., Loo, M., Munro, A.R., Noell, C.J., Nayar, S., Paton, D.C., Reville, A.T., Rogers, D.J., Rolston, A., Sharma, S.K., Short, D.A., Tanner, J.E., Webster, I.T., Wellman, N.R. and Ye, Q. 2009. An Ecosystem Assessment Framework to Guide Management of the Coorong. Final Report of the CLLAMMecology Research Cluster. CSIRO: Water for a Healthy Country National Research Flagship, Canberra.
- Fuller, R., H. Wilson, H. Possingham. 2009. Monitoring shorebirds using counts by the Queensland Wader Study Group. Unpublished report, Queensland Environmental Protection Agency.
- Gosbell, K. and R. Clemens. 2006. Population monitoring in Australia: some insights after 25 years and future directions. *Stilt* **50**: 162-175.
- Gosbell, K., and M. Christie. 2005. Wader Surveys in the Coorong and S.E. Coastal Lakes, February 2005. Unpublished report, Australasian Wader Study Group.
- Nebel, S., J. L. Porter, et al. (2008). "Long-term trends in shorebird populations in eastern Australia and impacts of freshwater extraction." *Biological Conservation* 141: 971-980.
- Oldland, J., D. Rogers, R. Clemens, L. Berry, G. Maguire, and K. Gosbell. 2009. Shorebird Conservation in Australia. *Birds Australia Conservation Statement*, no. 14.
- Rogers, D., C. Hassell, et al. (2009). Monitoring Yellow Sea Migrants in Australia (MYSMA): North-western Australian shorebird surveys and workshops, December 2008. H. Department of Water, and the Arts. Heidelberg, Victoria, Arthur Rylah Institute.