TEAM OYSTERCATCHER NEWSLETTER No. 8. March, 2023



Welcome to the eighth edition of Team Oystercatcher Newsletter ! In this edition, we extend our reporting on activities by Oystercatcher observers to King Island in Bass Strait. Activities in all our regions in SA are reported here. A highlight of this newsletter is a report by Dave Potter and Jean Turner on an outstanding study to estimate the breeding success rate of Australian Pied Oystercatchers on Kangaroo Island. Their project, covering five breeding seasons, is the first of its kind here in South Australia and should be regarded as a template for similar projects by volunteers at other sites in South Australia. Once again, we thank those team members who contributed to this newsletter through their counts and photos. Finally, progress with the SA Shorebird Foundation is presented. *Keith Jones, Editor (email: docjones@bigpond.net.au)*

Australian Pied Oystercatchers at Strawbridge Point Lagoon, Kangaroo Island, December, 2021.

(Photo. Dave Potter)

King Island monitoring of Oystercatchers steps up

King Island, in the western part of Bass Strait, has been visited by the Victorian Wader Studies Group (VWSG) for a number of years studying the population structure and migratory movements of Ruddy Turnstones. Pied and Sooty Oystercatchers have now been added to their permits as study species with the aim at gathering information on their movements on King Island and across Bass Strait (off shore wind farm development) and population structure. Their most recent visit in December, 2022 resulted in sightings of 10 banded Pied Oystercatchers on the island. Interestingly, one banded bird had been flagged more than 12 years previously (14 August, 2010) at Barry Beach, Corner Inlet, Victoria (Jessop, Atkinson & Patrick, 2023). Both Pied and Sooty Oystercatchers continue to be banded and flagged at Corner Inlet and other sites in Victoria (Jessop, 2022). So, there are expectations for more sightings of these birds on King Island. Incidentally, we've had sightings of Victorian banded birds as far west as Kangaroo Island (Potter & Turner, 2021).

SE SA Oystercatcher monitoring "piggy-backs" onto the Hooded Plover biennial surveys

In November, 2022, Jeff Campbell, president of Friends of Shorebirds SE (FOSSE), led his group of volunteers in the biennial November Hooded Plover population count from the Granites (lower Coorong Ocean Beach) to the Victorian border, a distance of 208 km (Birdlife Australia BNB biennial survey reports, 2008 - 2022). For a number of years, both Pied and Sooty Oystercatchers have been added to the list of monitored beach-nesting birds. In this last count, 103 Pied Oystercatchers and 46 Sooty Oystercatchers were observed. Densities (nos. / km of SE coastline) of POCs have been traditionally higher than those for SOCs (Fig.1), which may reflect the fact that favoured SOC habitats, such as rock platforms and offshore islands were not part of the current surveys. Both species have seen an overall increase in densities, with POCs exhibiting significant fluctuations.

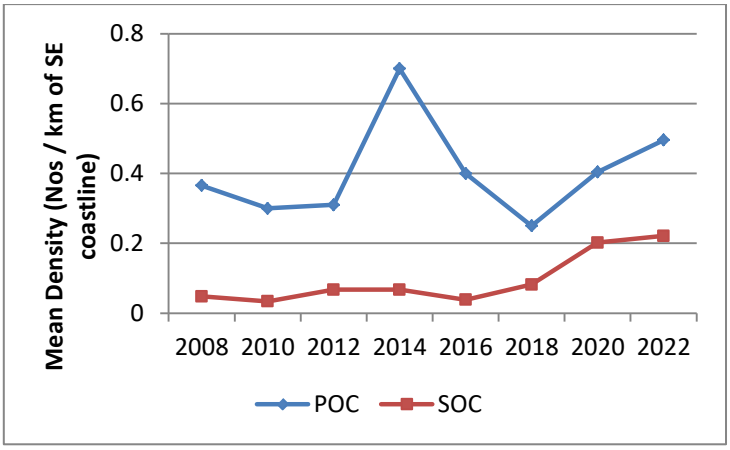

Fig.1. Densities (Nos / km of coastline) of POCs and SOCs observed from the November Biennial Hooded Plover Surveys for the SE SA (Granites to the Victorian border).

There has been a recent rise in the numbers of Sooty Oystercatchers counted in the SE SA. Here, we see adult Sooty Oystercatchers at Blackfellows Caves, SE SA, October, 2022. Photo: Jenny Hiscock

Coorong – Ocean Beach

Every two years in November, Coorong National Park Rangers carry out their biennial Hooded Plover Survey along the Coorong Ocean Beach between the Granites and the Murray Mouth (Birdlife Australia Report, 2020), a distance of 173 km. Most of this beach is surveyed, except for between Tea Tea and 42 mile Crossings, a distance of about 12 km, because of the high disturbance by Off-road Vehicles (ORVs), negating any sightings of Oystercatchers nor other beach-nesting birds along this part of the Ocean Beach. The densities of POCs and SOCs have been reported since 2008 (Fig.2). In contrast to the results for the South East SA, the counts of POCs have declined, caused by the substantial drop in this most recent year of 2022. In this most recent survey, rangers noted more

than 76 % of the POCs occurred in 3 foraging or resting flocks, consisting of 33, 23 and 18 adult birds, respectively. The rest were counted as individuals or in pairs. Two chicks were also reported. Note, that in 2020, the survey was not completed, due to a mandatory Covid lockdown.

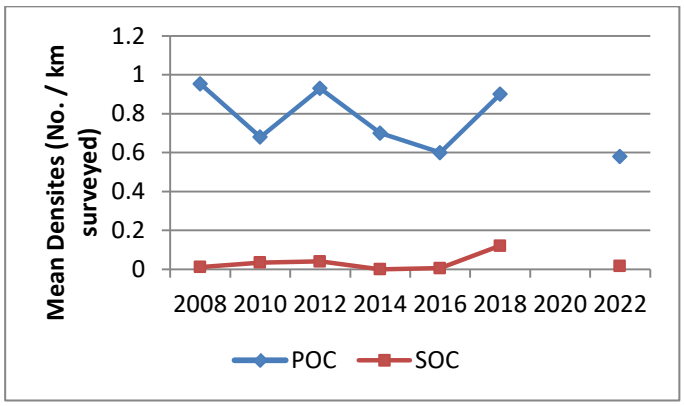

Fig. 2. Densities (nos. / km of coastline) of POCs and SOCs on the Coorong Ocean Beach, between the Granites and the Murray Mouth from the Biennial November Hooded Plover counts.

Unfortunately, the 2023 Summer shorebird count on the Ocean Beach in January was cancelled due to a catastrophic heat wave forecast for the planned day of the survey.

Southern Fleurieu (Murray Estuary to Encounter Bay)

This past year has seen the culmination of a number of projects, all associated with Oystercatchers, their foraging behaviour and factors affecting their distributions along the Ocean Beach between Middleton and the Murray Estuary. These projects include;

a) Ongoing monthly monitoring the counts of POCs and SOCs and levels of human activities at our 10 sites (2011/12 – 2022/23);
b) Emma Vanderzon, a Flinders University honours student, completed her project in 2021/22 on the foraging behaviour of Pied and Sooty Oystercatchers on this popular beach;
c) The South Australian Research & Development Institute (SARDI – Aquatic Sciences) undertook a statistically robust survey of recreational fishing for Goolwa Pipis throughout the 2020/21 Pipi season (Durante, Bailleul & Beckmann, 2022); and
d) Dr. Nick Whiterod of Aqua-save, Glenelg Nature Trust completed 5 consecutive years (2016/17 – 2021/22) doing fishery-independent surveys on the distribution and population structure of Goolwa Pipis, an important component in the diets of both OYC species on this beach.

Recreational harvesting of Goolwa Pipis often coincides with foraging and roosting sites for Sooty and Pied Oystercatchers. February, 2020.

Photo: Keith Jones

The results of these projects are summarised here:

- In 2020/21, there was a high recruitment of juvenile Goolwa Pipis along the ocean beach, and as these rapidly growing bi-valves reached adult sizes (> 35 mm) within 18 months of age, this surge in recruitment was followed in 2021/22 with a relatively high biomass of adult Pipis. It appears that Pied Oystercatchers responded to this increase in Pipi biomass, with relatively high numbers of POCs seen along the eastern Goolwa Beach. Into 2022/23, increasing numbers of POCs were observed further to the west of Goolwa Beach at Middleton Beach. This recent increase in numbers of POCs to the more western parts may also be related to the extremely high flow rates of River Murray water through the mouth to the ocean beach. This more westward occurrence of POCs may have been caused when algal beach wrack washed up at Middleton had trapped a diversity of food items that the Oystercatchers opportunistically foraged on. Also, in these years of high flow through the barrages, suitable habitat is not available within the estuary for POCs to forage or roost. No breeding of POCs has ever been observed on any of the upper parts of the beaches. Throughout the 11 years of monitoring, SOCs have always been more abundant along the ocean beach than in the estuary, and their abundance has steadily risen.

- There were behavioural differences between Pied and Sooty Oystercatchers from human activities on the Goolwa and Middleton Beaches (Vanderzon, 2022). Pied Oystercatchers foraged positively with numbers of people, suggesting recreational harvesters for Pipis often selected their harvesting site where the POCs foraged for Pipis. Interestingly, POCs showed no correlation with human disturbances, but SOCs showed the opposite, with their numbers decreasing as the number of humans increased.

- In 2020/21 the results from the on-site survey of recreational fishing for Pipis on Goolwa Beach (Durante, Bailleul & Beckmann, 2022) differed from those seen in 2013/14. The annual harvest rose from 32.7 +/- 11.1 tonnes in 2013/14 to 67.7 +/- 26.2 tonnes in 2020/21. Fishing effort in 2020/21 was predominantly carried out by harvesters using ORVs to drive to sites on the more eastern end of the Goolwa Beach, whereas, in 2013/14, effort by people who parked their cars in car parks and walked to their fishing site were much higher. The rise in number of ORV drivers in recent years can be explained by several contributing reasons; a) the steady increase in sales of 4 wheel drives throughout Australia (Langley, 2023), b) the increase in local tourism due to Covid restrictions in overseas travel, and c) the higher catch rates of adult Pipis on the Eastern Goolwa Beach, where ORV drivers have access. These results have implications on the behaviour of Oystercatchers, not only because of increasing competition for the Pipi resource between Oystercatchers and recreational Pipi gatherers, but also, increasing human disturbance on the birds.

Finally, counts reported on Birdata for 2022/23 highlighted numbers of SOCs further to the west of Middleton Beach, at Basham's Beach, Watson's Gap and Encounter Bay. Also, there have been reports of SOCs on the Pullen Island Conservation Park offshore from Port Elliot, and Granite Island (breeding at this latter site is suspected, R. Shirlaw). Dependent young have been seen at Yilki, Encounter Bay (R. Shirlaw).

Adult (right) and still dependent young (left) Sooty Oystercatchers foraging amongst seagrass beach wrack at Yiki, Encounter Bay, March, 2021. Photo: Roslyn Shirlaw

Western Fleurieu (Cape Jervis – Marino Rocks).

Oystercatcher numbers continue to be monitored at Snapper Point (Aldinga Reef Aquatic Reserve) twice monthly by Barry Simes. Since monitoring began in 2020, numbers of Sooty Oystercatchers have declined; average numbers of both adults and juveniles dropped steadily from 4.1 adults and 3.2 juveniles in 2020/21 to 0.2 adults and 0.9 juveniles per month in this current year (July'22 – March'23), respectively. Along the rest of the western Fleurieu coast, other Hoodie volunteers collect OYC counts at their respective sites at Marino Rocks, Hallett Cove, Onkaparinga River Mouth, Ochre Point, Sellicks Beach and Carrickalinga Creek Estuary, with relatively low numbers of SOCs sighted at all these locations. Similar to the Snapper Point site, average counts at these other sites were also lower in this past year (2022/23);(1.0 adult and juvenile SOCs per sighting), compared with 4.0 &1.4 adult and juvenile SOCs per sighting in 2020/21 and 2021/22, respectively).

Pied Oystercatcher sightings along this part of the Fleurieu coast continue to be a rarity; however, fortunately in November'22, Barry was on site when he spotted a pair of adult POCs resting on the reef together with a young SOC (see picture). In past years, 1 – 2 POCs have also been sighted on Sellicks Beach, and the Carrickalinga Estuary.

The rare sighting of a pair of adult POCs, a juvenile SOC (note paler legs) and Silver Gulls at Snapper Point, Western Fleurieu, 2 November, 2022. Photo: Barry Simes)

Samphire Coasts (Semaphore to Port Clinton).

For most of this year (July'22 – March'23), Birdlife Australia and FAIBS volunteers have reported their counts on Birdata for both the southern (Semaphore to St. Kilda) and northern Samphire (Gawler River to Port Clinton Conservation Park) regions. In the southern region, both POCs and SOCs were mainly observed at St. Kilda and on Bird Island, with an almost total absence from within the Port River itself (Gilman, Snowden's Beach). In contrast, in early years of the surveys (2014/15 – 2016/17), relatively high numbers of both species were observed, both in the central Port River (Gillman and Snowden's Beach) and the Outer Port (Bird Island). On average, counts on both species have been lower compared with previous years (Fig. 3).

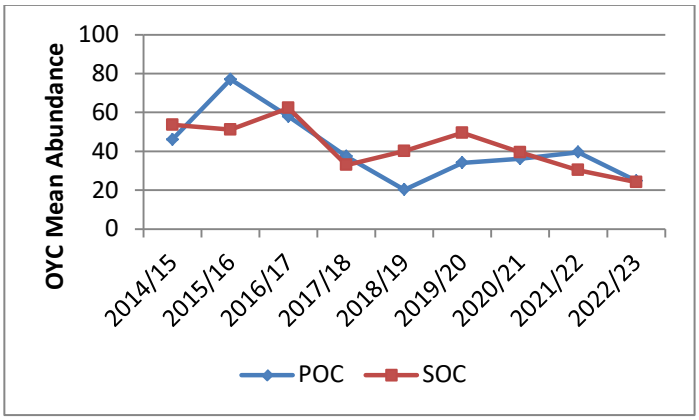

Fig. 3: Mean monthly abundances of Pied and Sooty Oystercatchers in the southern Samphire region, 2014/15 – 2022/23.

In the Northern Samphire region, average counts have also been lower than in previous years. Sites where counts were relatively high included Port Clinton Conservation Park (SOCs), Thompsons Beach (south) for SOCs and Port Prime for POCs. It's pleasing to note, that several volunteers have been permitted to survey the flats associated with the Port Wakefield Proof Range, and recently relatively high numbers of POCs were observed at this site.

It should also be noted that the observed drop in numbers of SOCs throughout the Samphire Coast coincides with their lower counts on the western Fleurieu coast, as reported above (p. 5).

Adult Sooty Oystercatchers resting at high tide amongst Samphires at Port Clinton Conservation Park, 9 March, 2023. Photo: Teresa Jack.

Kangaroo Island

So Where do the Pied Oystercatchers Breed on Kangaroo Island?

2022/2023 Breeding Season Summary, Dave Potter and Jean Turner

Over 27 days in September-October 1994 Martin Schulz walked the 509km coastline of Kangaroo Island (KI), systematically checking all suitable coastal shorebird habitats and recording the species and numbers of resident and migratory shorebirds seen (Schulz 1995). The Australian Pied Oystercatcher (POC) was one of 25 species he observed.

Schulz found the greatest concentrations of POCs on sheltered north coast beaches with extensive intertidal flats: 107 in the Bay of Shoals, 71 in Western Cove, 134 in Eastern Cove and 71 in Pelican Lagoon. We believe Pelican Lagoon to be part of the Eastern Cove system. Most of these were non-breeding birds, but Schulz did find 24 pairs with confirmed nests and a further 22 pairs with behaviour suggestive of nests (not searched for). Most of the 46 breeding pairs were on low energy north coast beaches, with a scattering of breeding pairs on high energy beaches of the south coast.

When we started monitoring POCs on KI we weren't aware of Schulz's study, but over several seasons have discovered similar concentrations of non-breeding groups and breeding pairs as Shultz found. To date we have determined 16 breeding pairs in the Bay of Shoals (from Reeves Point to Cape Rouge), 20 pairs in Western Cove (from Point Morrison to Kingscote Wharf, including 5 pairs monitored by Peter Hastwell), 25 pairs in Eastern Cove (Kangaroo Head to Ballast Head including Pelican Lagoon) and 5 pairs on the South Coast (D'Estrees Bay, Bales Beach, and Hanson Bay).

Part of high tide roosting group, Reeves Point Kingscote, 10, March, 2023: 143 Pied Oystercatchers counted (photo: Jean Turner.)

We believe this still slightly underestimates the number of breeding pairs. In the Bay of Shoals we think there may be an extra 1 or 2 pairs along the shore adjoining North Cape Road. We also suspect there are a few pairs in the beach and samphires of Dover Farm area, but have not yet explored this as access is only via private property.

Peter Hastwell monitors 5 pairs in a private-access section of Western Cove, east of Nepean Bay settlement, completing most of that eastern section. However, it is likely there are additional pairs in samphire areas west of Nepean Bay settlement and further west along the beach to Cygnet River Estuary, an area only accessible by Kayak. Tidal samphires at the Cygnet River mouth may also hold an extra pair or two, as one pair already monitored nests inland among samphires adjacent to the Cygnet River channel.

In Pelican Lagoon there are samphire areas with chenier ridges and islands that have not yet been fully explored but may support breeding pairs. D'Estrees Bay may also have 1 or 2 extra breeding

pairs not picked up by our intermittent monitoring. Notwithstanding all this, we believe we have captured most of the breeding pairs on Kangaroo Island.

Summary of Breeding Pairs Monitored in 2022/2023

A total of 69 breeding sites, including Peter Hastwell's 5 sites, were monitored this season, up from the 50 sites reported last year. Note that Bales Beach, Vivonne Beach, Hanson Bay and Peter Hastwell's sites were surveyed last season but were not included in last year's tables. All previously known sites were monitored at least 8 times every 10-14 days this season. New sites when found were then monitored as intensively as the other sites. South Coast sites are the exception, being monitored less intensively, only when time permitted. Total eggs recorded may be an underestimation as no doubt pairs with nests containing 1 egg may have laid more eggs before our next visit, when we found nests had failed due to high tides or predation.

2022/2023 Breeding Season Results

Breeding Season 2022/2023 (by Breeding Pair Site)	**Total Eggs Laid**	**Total No. Chicks Hatched**	**Total No. Fledglings**	**No. of Breeding Attempts**
Antechamber Bay	absent			0
Christmas Cove	0			0
American Beach	0			0
Baudin Beach	2	2	1	1
Browns Beach				
Site 1-Crabby Jack	0			0
Site2 –MME	unknown	2	1	1
Site 3-MMW	absent			0
Island Beach				
Site 1-Rocky Point	absent			
Site 2-Willoughby	2	2	1 (later died)	1
Site3-Cassini	0			0
Site 4-Seal	1	0		1
Site 5-Boat Ramp	2	0		1
Site 6-Flinders Grove	0			0
Site 7-NDE	0			0
Site 8-NDM	2	2	0	1
Site9-NDW	5	0		3
Site 10-Golf Course Cnr	3	0		2
Site 11-IBW1	2	0		1
Site 12-IBW2	2	0		1
Site 13-IBW3	2	0		1
Strawbridge Point Beach				
Site 1	2	1	1	1
Site 2	0	0		0
American River				
Pelican Lagoon Sanctuary Sign	3	0		1

Remembrance Point	1	0		1
Site 3	0			0
Site 4	2	0		1
Site 5	2	1	1	1
Nepean Bay				
Nepean Esplanade West	2	0		1
Chenier 1	0			0
Samphire2	suspect	0		1?
Nepean Bay West (Peter Hastwell)	0			0
Nepean Bay Mid West (Peter Hastwell)	5	0		2
Nepean Bay Mid (Peter Hastwell)	3	0		2
Nepean Bay Mid East (Peter Hastwell)	0			0
Nepean Bay East (Peter Hastwell)	2	0		1
Min-Oil Rd-Telstra Track West (new)	2	0		1
Min-Oil Rd-Telstra Track (new)	3	0		2
Min-Oil Rd-Boat Ramp (new)	0			0
Min-Oil Rd- Jants (new)	2	0		1
Min-Oil Rd-Oyster Lease West (new)	1	0		1
Min-Oil Rd-Oyster Lease East(new)	0			0
Kingscote				
Bay of Shoals -Reeves Point West	2	0		2
Bay of Shoals-Mangrove	6	0		3
Bay Of Shoals-Boat Ramp East	0			0
Bay of Shoals-Boat Ramp West	0			0
Brownlow Rd				
North East Terrace (new)	0			0
Brownlow Terrace (new)	2	0		1
Yacht Club (new)	2	0		1
Cygnet River Estuary				
Estuary Road	0			0
Samphire	4	0		1
Chenier	2	0		1
Cape Rouge Beach				
Site 1-Paddock	1	0		1
Site 2-Melaleuca	0			0
Site 3-Fence West	2	0		2
Site 4-Fence East	0			0
Site 5-Windmill	1	0		1
Site 6-Point	5	0		3
Site7-Point West (new)	2	0		1
North Cape Road				
267 North Cape Road	4	0		2
313 North Cape Road	2	0		1
North Cape Road-Daisy	1	0		1

419 North Cape Road	1	0		1
North Cape Road-Last Entrance (new)	0	0		0
D'Estrees Bay				
Wrights Cottage	0			0
Wreckers Beach	2	2	2	1
Wheatons Beach	unknown	unknown	1	1
Bales Bay (Beach 1,2,3) (not included before)	3	unknown	unknown	1
Vivonne Bay (not included before)	absent			0
Hanson Bay (not included before)	unknown	unknown	1	1

For Total Eggs Laid, 'absent' means that a breeding pair failed to establish and defend the territory this season, even though POCs may have been recorded there at times, roosting or foraging. Zero (0) indicates a breeding pair was present, holding the territory but did not lay eggs. 'Unknown' is used where a pair either produced chicks but a nest was not found or not checked (e.g. steep unstable dune face); or where recently fledged dependent juveniles were present but the nest or chicks not previously sighted; or where a nest with eggs was found but no chicks or fledglings subsequently seen.

Pied Oystercatcher nest and habitat found at Cygnet River Estuary Chenier site, 18 Sept, 2022 (Photos: Dave Potter & Jean Turner)

Pairs of Pied Oystercatchers are still missing from Antechamber Bay. Upgrading of the camp area in Lashmar Conservation Park adjacent to Antechamber Bay beach has led to increased beach usage by picnickers and walkers, sometimes with dogs off lead. This may have deterred occupancy of the two historical POC breeding sites, although Hooded Plovers still bred here this season.

Site 1 at Island Beach is still being occupied by the 'Odd Couple'- a POC/SOC pair - which is territorial and actively chased off other POCs.

The Browns Beach Site 3 pair was mostly absent through the season and did not breed, largely due to dramatically increased human disturbance from workers at a nearby building site and the dog from another adjoining property regularly roaming the beach unattended and unmanaged in that territory. Also POCs were not seen at Vivonne Bay this season but have been sighted there in previous years of our monitoring and historically.

The absence of the American Beach pair may be due to fluctuations in the amount of dry wrack – their usual nesting substrate - and the presence of an Osprey which now frequents the area. While Ospreys are not considered a direct threat to adult POCs, the POCs behaviour when an Osprey is present indicates they definitely see Osprey as a threat during the breeding season.

Breeding Effort in 2022-23

	2022/2023			
Breeding Area	**Total Eggs Laid/Area**	**No. Chicks /area**	**No. Fledglings /area**	**No. Pairs**
Christmas Cove	0	0	0	1
American Beach	0	0	0	1
Baudin Beach	2	2	1	1
Browns Beach	unknown (2 minimum)	2	1	1
Island Beach	21	4	1	12
Strawbridge Point Beach	2	2	1	2
American River	8	1	1	5
Nepean Bay West	2	0	0	3
Nepean Bay-Min Oil Rd	19	0	0	9
Cygnet River Estuary	6	0	0	3
Brownlow Rd	5	0	0	3
Kingscote-Bay of Shoals	8	0	0	4
North Cape Road	8	0	0	5
Cape Rouge Beach	11	0	0	7
D'Estrees Bay	unknown	unknown	3	3
Bales Beach	3	unknown	unknown	1
Vivonne Bay	0		0	
Hanson Bay	unknown	unknown	1	1
Antechamber Bay	0	0	0	0
Total	**97 (minimum)**	**11 (minimum)**	**9**	**63**
%Chicks Hatched/No of Eggs		11.3%		
%Fledglings/No of eggs			9.3%	

Most pairs observed laid 2 eggs per clutch. A few pairs laid 3 eggs in one clutch and one pair this season had a nest with 4 eggs.

Overall breeding success this season was quite low, with 11.3% of known eggs laid producing chicks and less than 10% of known eggs resulting in fledged juveniles. However, once hatched, the survival rate of chicks was quite high – 81.8%. One juvenile died of injury or infection a few weeks after fledging. The exact cause is unknown but the juvenile was still with its parents in the breeding territory.

This year's low success rate follows on from a poor success rate in 2021-22, suggesting a downward trend in POC breeding success.

Despite the increase in number of pairs monitored, there has also been a decline in the number of breeding pairs in some areas. When we started monitoring POCs on Kangaroo Island 5 seasons ago there were 2 POC pairs at Antechamber Bay (now none), 3 at Browns Beach (now only 1 pair breeds), 13 pairs at Island Beach (now 12, as one site is occupied by the mixed POC/SOC pair which actively excludes any new POC breeding pair). Bales Beach had 2 pairs (only 1 pair seen this year), Vivonne Bay historically had at least 1 pair (Schulz 1995) but we have not observed any breeding there. We also expect that historically more than 1 pair would have bred at the Hanson Bay beaches.

The Christmas Cove (Penneshaw) pair did not attempt to breed this year. For the second year running one bird from the pair was killed by collision with a car while feeding on the grassy roadside verge. Last breeding season one of the breeding pair was killed just before the eggs were due to hatch resulting in the nest being abandoned. The surviving partner did not pair up again until winter. This season one of the pair was killed just before the breeding season commenced. While the remaining bird eventually re-partnered, it may have been too late to form a bond to breed. Another possibility is that the long term knowledge about nest site selection at this site was lost with death of the second bird. In past seasons the Christmas Cove pair has generally nested on rocks and the new pair may not have experience of this.

POC Pairs used a variety of Nest Habitats

Breeding Attempts in 2022/2023					
Nest Sites (Habitat Type)	**Attempt 1**	**Attempt 2**	**Attempt 3**	**Habitat Total**	**Site %**
grassy paddock/ roadside	0			0	0
building site	0			0	0
sandy beach	16	7	1	24	42.8
chenier/samphire	6	2	1	6	10.7
dune	2			2	3.6
foredune ledge	8	1	1	9	16.1
Island	0			0	0
Rocks	2			2	3.6
salt pan	0			0	0
seagrass wrack ledge	7			10	17.9
Unknown	2			2	3.6
Attempts	43	10	3		
Total Breeding Attempts				56 attempts by 69 pairs	

Most Pied Oystercatchers nest on sandy beaches, but they can be adaptable and creative in their choice of nesting sites as shown by the above table. Previous years' study showed that some pairs can even be flexible in their choice of nest sites within the same breeding season, if early nests fail.

The extreme weather and tide conditions this season generally did not encourage repeat breeding attempts to allow for this nest site flexibility to occur.

Pied Oystercatcher nest habitats, Left: High and Dry, Pied Oystercatcher incubating nest on a rock stack off the cliff edge, Brownlow Rd, 21 November, 2022 (photo: Dave Potter); Right: Pied Oystercatcher nest with 4 eggs on shell-grit chenier ridge, Cygnet River Estuary, 18 September, 2022 (Photo: Jean Turner).

When did POCs start nesting?

	Month First Breeding Attempt Observed (Number of breeding pairs)					Total Pairs Monitored
Breeding Season	August	September	October	November	December	
2018/2019	1	4	3	3		12
2019/2020	1	22	1		1	26
2020/2021	3	14	9	4		37
2021/2022	2	24	8	5		50
2022/2023	4	21	12	2		69

Most pairs had their first breeding attempt of 2022/2023 in September. This appears to be fairly consistent over the five breeding seasons regardless of the increase in number of breeding pairs monitored in successive years. Generally pairs were monitored often enough from July onwards to have noticed their first scrapes, nests and incubations. The latest nest found this breeding season was at Cape Rouge Beach 'Point' in January 2023. This is the latest new nest we have ever found on Kangaroo Island.

What caused breeding failures?

Cause of Breeding Failure	2021/2022	2022/2023
bird predation	2	1
death or displacement of 1 partner	2	2
displacement by POC/SOC pair	1	1
Goanna	6	1
human disturbance	5	1
washed away	18	30
Unknown	21	16
death of fledgling	0	1
no attempt	6	21

Apart from the death of one of the Christmas Cove pair (described elsewhere), another bird may have died near one of the nest sites at Cape Rouge Beach. A heavily predated carcass of a black and white bird thought to be a Pied Oystercatcher was found in the vicinity of a failed nest. Unfortunately no head remained to confirm identification. No traces of the nest remained and the cause of death is uncertain. Cats are known to live in the area (prints and sightings recorded) and White-breasted Sea-Eagles and Wedge-Tailed Eagles have been seen to hunt in the area. Other raptors also occur there, as do Rosenberg's Goanna and Kangaroo Island Tiger Snake.

The number of failures due to goannas may have been highly underestimated this year. Despite cool conditions early on in the breeding season goannas were very active at this time in most areas, as indicated by their tracks seen on the beaches. Extreme winds throughout spring may have increased drift of dry sand around many nests, masking the presence of goanna prints around failed nests.

Last breeding season (2021/2022) saw a larger than usual number of nests getting washed away. However, in 2022/2023 the extent and frequencies of extreme high tides in winter, spring and early summer caused a great increase in washed out nests this breeding season, even taking into consideration the larger number of sites and pairs monitored. Fore-dunes and dunes in several areas were severely eroded, reducing the areas available to pairs that generally nest in this habitat. Seagrass wrack was washed up onto fore-dunes at some sites, further evidence of far greater storm disturbance than usual this season.

Storm surge erosion of upper beach and fore-dune nesting habitats of Pied Oystercatcher pairs, Min Oil Beach (left) 12 October, 2022 and Island Beach (right) 24 August, 2022 (photos: Jean Turner)

Pairs that usually nest on extensive seagrass wrack platforms were also affected by the higher tides. Some birds laid their eggs on the wrack platforms only to have their nest swept away within a week or so. Birds that had nests on upper beach sand were also heavily affected by high tides. In fact on one day a nest with eggs that DP discovered walking east on his usual 'out and back' transect of Cape Rouge Beach had been washed away by the time he returned west along the transect.

An extraordinary number of pairs did not attempt to breed at all, including pairs that have always had success in all previous seasons we have monitored them. It may be that those birds never gained full breeding condition. Extreme high tides would have reduced the available foraging areas and many days of continual strong winds may have also reduced the time available for feeding.

The cool windy conditions this season were less favourable for human beach activities so failure due to human disturbance may have actually decreased.

A Most Unusual Season?

Five seasons of monitoring Pied Oystercatcher breeding pairs on Kangaroo Island reinforces our belief that when there is a low frequency of storm surges during the first clutch of eggs, chicks can successfully hatch early and have a better chance of making it to fledging before the intensity of human disturbances associated with long weekends and school holidays increases and before goanna activity begins. Unfortunately storm surges occurred all throughout this breeding season, with many nests lost. Also goanna activity started very early this season. Their tracks on beaches in all areas suggest they regularly patrol the beaches, more so earlier in the season.

Summary of Monitoring Results over Five Seasons					
	2018/2019	**2019/2020**	**2020/2021**	**2021/2022**	**2022/2023**
No. of Pairs Monitored	12	26	37	50	69
No. of Attempts	13	28	40	61	56
No. of Eggs	unknown	46	73	103 min	97 min
No. of Chicks	11	26	28	18	11 min
No. of Fledglings	10	17	22	7	9

As can be seen in the above table, the numbers of pairs monitored and analysed has increased from 12 to 69. This has coincided with expanding searches in Eastern Cove, Nepean Bay and Bay of Shoals and inclusion of Peter Hastwell's data. Experience in understanding Pied Oystercatcher behaviour has also increased the number of nests found. Unfortunately monitoring such a large number of pairs meant that the time of return between surveys increased from about a week in 2021/2022 to about 10 days this season. As a result the number of eggs laid is quite likely an underestimate and determination of cause of breeding failure is made harder.

Alarmingly, the total number and proportion of breeding attempts has decreased dramatically despite the increased number of pairs being monitored. Storm surges dramatically reduced the number of nesting sites available and may also have reduced the biomass of available food resources and the time available to forage. Accordingly some pairs may not have reached full breeding condition or only had enough condition for one breeding attempt.

This season DP observed Oystercatcher tracks leading to dead birds on the beach with forage marks around the carcass; perhaps to feed on the associated invertebrates. Last season JT observed a Pied Oystercatcher family (2 adults and 1 chick) feeding on a fresh fish carcass. These unusual observations may be associated with the reduced opportunity to forage on preferred prey items, due to the adverse weather and tide conditions.

Island Beach POC family (2 adults, 1 juvenile) feeding on fish carcass, 26/12/21 (Photo: Jean Turner)

During the previous summer (2021/2022) there was a small phytoplankton bloom at Island Beach and also some deaths of exposed bivalves during hot weather at low tide at multiple sites in Eastern Cove. These factors

may also have influenced the available food resource for the oncoming 2022/2023 breeding season.

There was also an increase in territorial behaviour observed where pairs of interloping Pied Oystercatchers tried to take over nest sites or breeding territories. This would have created further stress on the nesting birds as the incubating bird would join its partner to defend their nest or territory. DP witnessed one of these events when a chick close to fledging was incidentally hit in the territorial scrum. It already had an injured wing perhaps from a previous similar incident. Unfortunately after fledging the juvenile died.

With such adverse conditions experienced this season by our breeding Pied Oystercatchers, we hope this is indeed a most unusual season, and that 2023/2024 will be more successful.

Acknowledgements:

Schultz, M. 1995. A survey of Shorebirds of Kangaroo Island, South Australia. The Stilt 26, 46-49
Peter Hastwell for his breeding season monitoring observations at 5 sites in Nepean Bay.

Note: A **chenier** or **chénier** is a sandy or shelly beach ridge that is part of a strand plain, called a "chenier plain," consisting of cheniers separated by intervening mud-flat deposits with marsh and swamp vegetation.

News on recently completed projects funded by Foundation for SA Shorebirds.

This last year has seen the completion of three projects partly funded by the Foundation. These include:

1. **Project 2020-02. Investigation of Oystercatcher presence and behaviour along a popular recreational sandy beach system.** Emma Vanderzon, Flinders University BSc honours student. Her thesis is summarised in this newsletter (see SE Fleurieu region, p. 4)
2. **Project 2021-01. Hoodies on Display : Inspiring Conservation Action.** Dr. Meg Cullen, Birdlife Australia Beach-nesting Bird team. This educational project was based at Port Turton, sthn Yorke Peninsula, with the creation of a unique Hooded Plover art instillation to raise the awareness of the plight of the threatened Hooded Plover, *and other beach-nesting birds* in their local habitat. Karen Carr, South Australian artist is a specialist in artwork for conservation and used workshops to create this interactive piece of Hooded Plover art.
3. **Project 2021-03**. **Engaging remote South Australians in the National Beach-nesting Bird Conference at Moonta, Yorke Peninsula, May, 2022.** Dr. Kasun Ekanayake, Birdlife Australia Beach-Nesting Team. This project provided opportunities for volunteer regional coordinators of beach-nesting bird monitoring projects in SA to improve shorebird identification and monitoring skills enabling them to pass their knowledge to other volunteers in their respective regions.

Final reports on these projects will shortly be posted on the Foundation's website (www.sashorebirds.org).

Another project has recently been approved by the Foundation. This community-inspired project, to be undertaken by the Price Progress Association, Northern Yorke Peninsula, will involve the design and installation of educational signage at the wharf at Wills Creek Conservation Park to inform locals and visitors to this park about key shorebirds occurring in this internationally recognised important shorebird foraging and nesting area. Shorebirds include migratory species, including Far Eastern

Curlew, Bar-tailed Godwits, Red-necked Stints, and resident beach-nesting species, including Pied and Sooty Oystercatchers and Red-capped Plovers.

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