# Red-capped Plovers on the Samphire Coast

## 2018/2019 Breeding Season Report

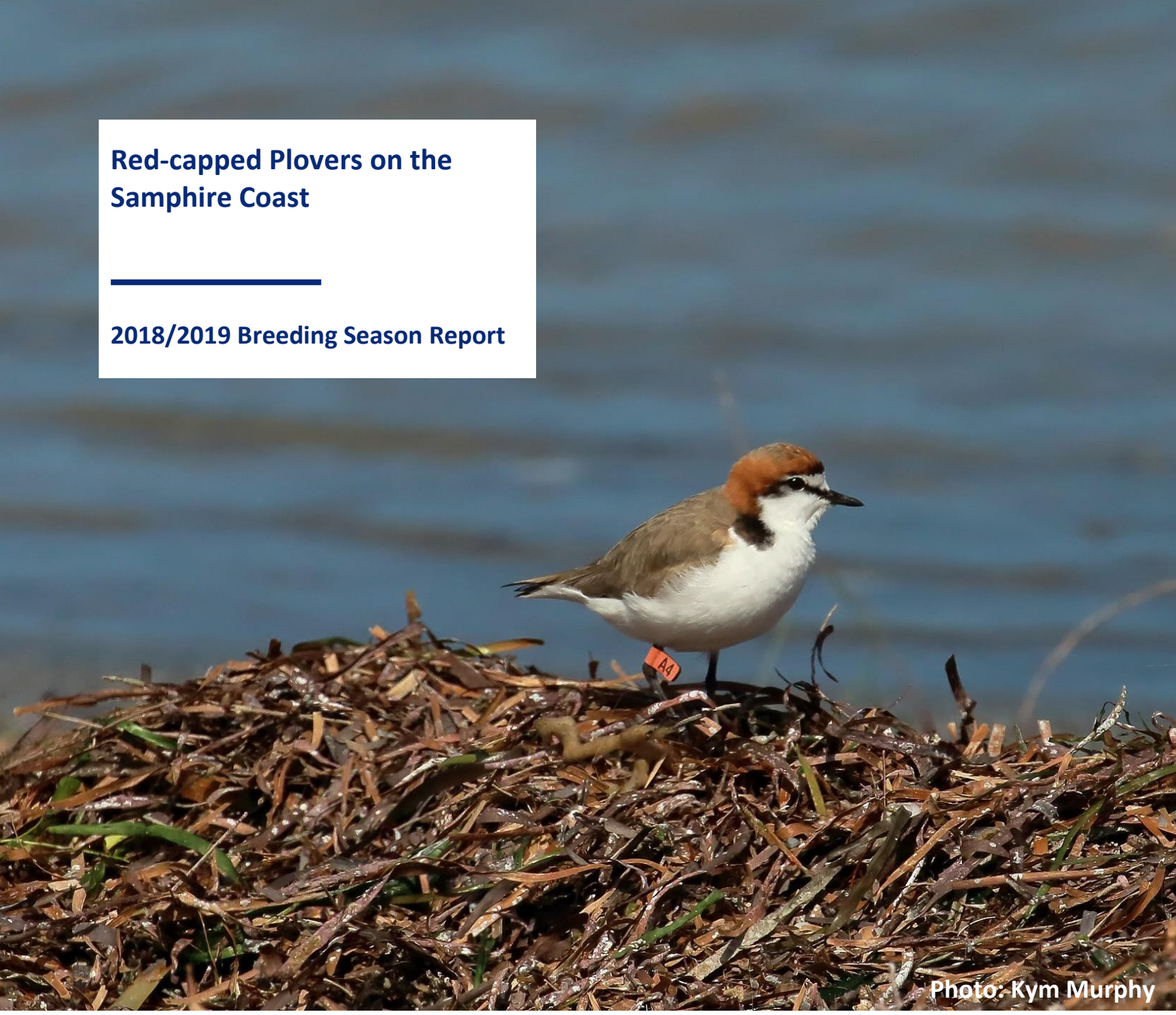


Photo: Kym Murphy

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# Red-capped Plovers

# 18/19 breeding season report

*Background*

The beaches and saltmarshes north of Adelaide, known as the Samphire Coast, are home to hundreds of Red-capped Plovers (*Charadrius ruficapillus*) a resident shorebird species.

The Red-capped Plover is deemed an ideal flagship for this coastline, as it favours saltmarsh, saltpans and beaches as nesting habitat, and is abundant within the area. It is also a species with unique characteristic plumage and behaviours, and can be easily observed from the distance with binoculars. While Red-capped Plovers are not listed as a threatened species within Australia, they are at risk of population declines and local extinctions, and may be a species that disappears before our eyes via a 'death by a thousand cuts' scenario.

In 2013 a monitoring program was started to gain insights into the breeding success and population estimates along the Samphire Coast. The monitoring was set up as a collaboration between BirdLife Australia's Beach-nesting Birds program with funding support and staff time from the Adelaide and Mt Lofty Ranges Natural Resources Management Board.

Volunteers began monitoring the Red-capped plovers (Red-caps) during the 13/14 breeding season with a focus on four known breeding sites along the Samphire Coast. Since then, the sites have expanded to include Adelaide metro beaches such as Largs Bay, Semaphore and West Lakes Shores beaches (Map 1). During the 2014/15 season the monitoring of Red-caps was expanded south of Adelaide to some of the Fleurieu Peninsula sites. These included South Port Beach, Onkaparinga estuary and Yankalilla River estuary.

This report will cover:

A. Results and discussion on the monitoring that was completed by volunteers for the 2018/2019 season
B. Beach-nesting Birds Biennial Count
C. Threats that were recorded in the portal and other threats that are known to specific sites i.e. Sand-carting at Semaphore South Beach.
D. Banding work
E. Local Government engagement and support

F. Awareness raising
G. Recommended actions for 19/20 breeding season
H. Appendix: List of banded and flagged Red-capped Plovers on Samphire Coast

## A. 18/19 Monitoring Results

This past season marked a particularly poor year for Red-capped Plover breeding success along the Samphire Coast and Adelaide metro beaches according to the data pulled from the Beach-nesting Birds online data portal. One hundred and thirteen portal entries were made and **one** fledgling from Semaphore South was confirmed.

Table 1. Summary table of Red-capped Plover breeding 18/19 taken from the portal.

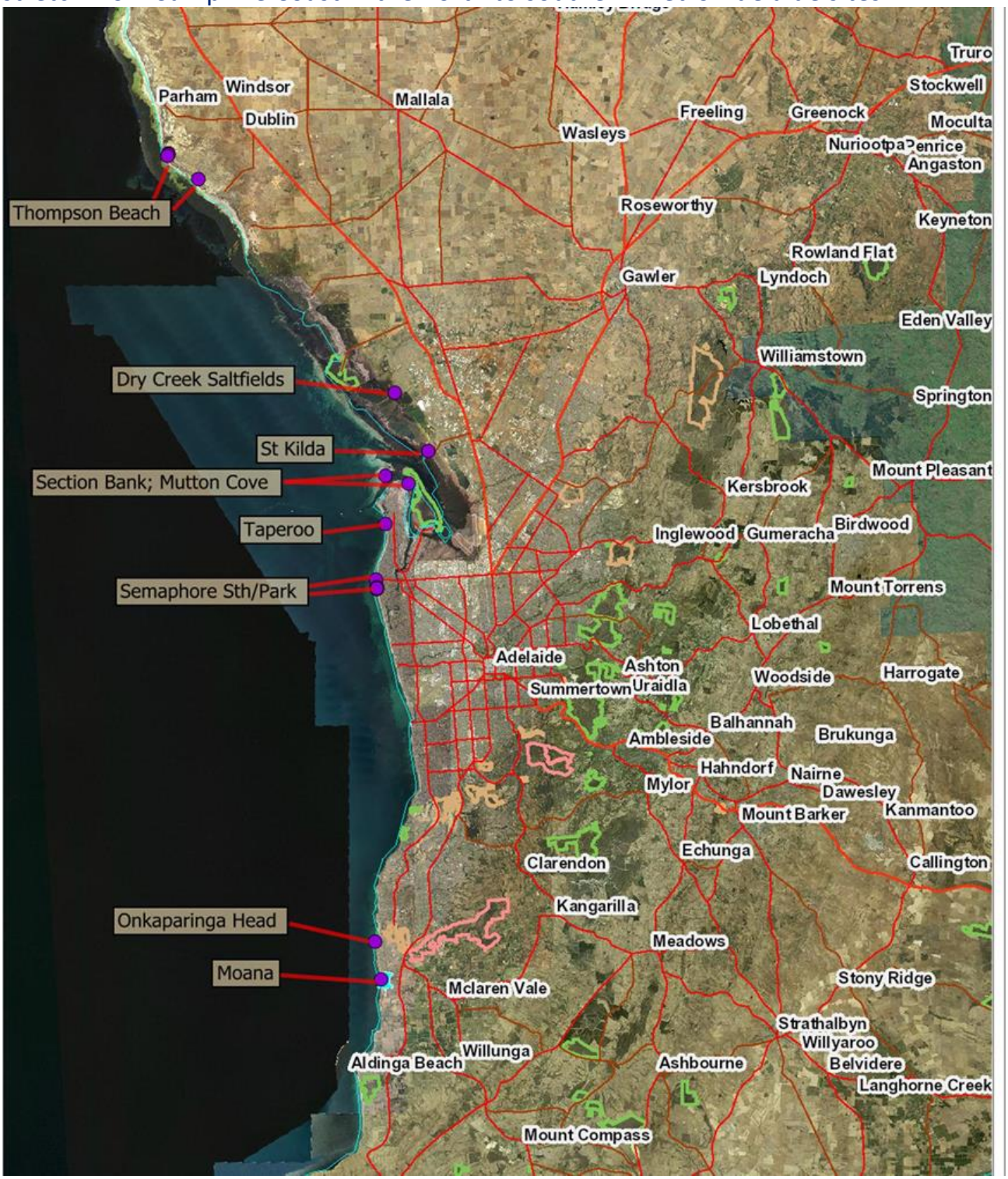
| Site | Portal entries | #nests | #chicks | #fledglings | #juveniles |
|---|---|---|---|---|---|
| 1. Webb Beach | 3 | 0 | 0 | 0 | 2 |
| 2. Port Prime | 1 | 0 | 2 | 0 | 0 |
| 3. St. Kilda Beach | 2 | 1 | 2 | 0 | 0 |
| 4. Mutton Cove | 1 | 0 | 1 | 0 | 0 |
| 5. Semaphore Beach (Bower Rd - Semaphore Rd) | 2 | 0 | 0 | 0 | 0 |
| 6. Semaphore South (Recreation Pde - Bower Rd) | 69 | 14 | 15 | 1 | 2 |
| 7. West Lakes Beach | 7 | 2 | 0 | 0 | 0 |
| 8. West Beach | 2 | 0 | 1 | 0 | 0 |
| 9. South Port | 3 | 0 | 0 | 0 | 1 |
| 10.Onkaparinga Estuary | 6 | 0 | 0 | 0 | 1 |
| 11.Snapper Point | 15 | 0 | 0 | 0 | 4 |
| **Total** | **113** | **17** | **21** | **1** | **10** |

This season, nine volunteers assisted with data capture across eleven sites (Map 1). Compared to previous years this number of portal entries and number of volunteers is low. Last season, 17/18, there were 14 volunteers collecting data and 187 portal entries made. The 15/16 season had the highest number of volunteers with 22 volunteers monitoring Red-capped Plovers over 27 sites and 421 portal entries. This drop in volunteers can be attributed to a few factors. Firstly, three volunteers have relocated so were no longer able to continue to monitor the Red-capped Plovers at their chosen site. Secondly, due to the transition from the Samphire Coast Icon Project, with two full-time staff, down to one part-time staff in the Sharing our Shores Project, this has meant a reduction in staff time and resources to drive volunteer recruitment, training and assistance during the season. Lastly, some volunteers that originally were Hooded Plover volunteers have needed to dedicate their time solely to the Hooded Plover program.

Less monitoring effort undertaken this season across the ten sites may have also contributed to less fledglings having been recorded. It is possible a chick, nest or fledgling may have been missed.

Adding to this thought is the number of juveniles that were recorded at the northern site of Webb Beach and south at Snapper Point which is a good indication that there *was* some breeding success this season. Also "a pair of adults were sighted with two almost fledged chicks foraging along the creek outlet at Port Prime, just north of the road access to this site. The chicks are well developed and colouring up and one was seen stretching its wings." Mary-Ann van Trigt, portal entry 10/01/2019. It is unknown how far juveniles travel and thus whether these were locally produced or from much further afield. This is another reason for the banding program, to learn more about site use and juvenile dispersal.

Map 1. Red-capped Plover monitoring sites. Not all sites included but shows the stretch from Samphire Coast in the north to southern metro Adelaide sites.



## B. Beach-nesting Birds Biennial Count

The BNB Biennial Count was conducted this year on the weekend of Nov 17th and 18th 2018. As with the last two biennial counts (2014 and 2016) volunteers assisted with survey coverage for the northern metro beaches and Samphire Coast as north as Parham Beach. A number of volunteers who also collect data for the National Shorebird Monitoring Program (Shorebirds 2020) decided to combine the two counts and do the BNB Biennial Count the same day which was November 12th. In total, 6 volunteers completed the survey across 15 survey areas. The data collected during the survey has not yet been analysed. The list of sites that were covered from north to south are below:

| | |
|---|---|
| Parham North | Port Gawler |
| Parham South | St. Kilda |
| Webb Beach | Snowden Beach north |
| Thompson Beach North | Snowden Beach south |
| Thompson Beach South | Largs Bay |
| Port Prime | Semaphore Beach north |
| Light Beach | Semaphore Beach south |
| Middle Beach | |

## C . Threats to breeding success

A number of threats were recorded in the portal and are listed below. These include possible or known causes of failure to nests and chicks this season. The majority of threats discussed below are from the Adelaide metro stretch of coasts from Semaphore South to West Lakes Beach. Many of the same threats are known to occur at the other sites but were just not recorded in the portal this season.

i. *High tide with storm surge.*
A high tide with strong winds occurred twice during the breeding season in mid-September and early November and caused the failure of 3 nests at Semaphore South. One nest with one egg remained and was incubated for a further week until the nest was abandoned due to unknown cause. Similarly, at West Lakes Shore (Shore Court), a nest with one egg was abandoned in November after a high tide and strong southerly wind that lasted two days.

*ii. Silver gull predation on chicks*

This was observed at Semaphore South by a Department for Environment and Water (DEW) Coastal Management Branch Officer who was onsite daily managing the sand-carting program. He reported to have observed Silver Gulls perching on the Council installed rope fence and waiting for chicks to emerge from their shelter amongst the Sea Rocket before predating. This observation was discussed with volunteers on the beach and coincided with the loss of up to 6 chicks. (pers.comm Susanne Nikolajsen and Mary-Ann van Trigt, January 2019).

Unfortunately no further information about this targeted predation by Silver Gulls was able to be recorded. Questions from this incident remain, such as, were the Red-capped Plover parents around during the predation event or was this timed with disturbance from the sand-carting or even from the DEW Officer being close by? These answers would help inform the bigger question of whether predation is truly just predator impact or the combination of disturbance *plus* creating an opportunity for predation.

*iii. Raven Predation on eggs and chicks*

A suspected cause of failure for one nest this breeding season was due to raven predation at Semaphore Park. Passerine prints were found at the scrape and recorded in the portal. Ravens have been suspected of nest failure and chick predation at this site for many years.

*iv. Sea wheat grass at some sites*

The invasion of sea wheatgrass (*Elymus farctus or Thinopyrum junceum)*,a coastal weed found on dunes in Gulf St Vincent, has caused many nesting sites to become unsuitable in recent years. The Adelaide metro sites where Red-capped Plovers previously nested in the foredune are now densely covered in sea wheatgrass creating unsuitable nesting habitat and forcing the birds to nest further down on the beach where the eggs are more likely to be trampled upon. Another observation made this season was the number of nests that were lost due to heavy rain. The rain caused the eggs to be displaced from the nest (rolled out) by rain water flowing down the slope of the dune. The sea-wheat grass has changed the dune slope profile so that the birds have been forced to nest at the edge where water flows down heavy and fast. This season 3 nests were believed to be lost due to heavy rain and the location of the nest on the slope of the dune.

This past season City of Charles Sturt made an effort to control small sections of sea wheatgrass in the dunes just south of the Bower Road beach access at Semaphore South. This was done as a trial to see what control methods may work and if it would provide space for the birds to attempt to nest. However regular follow-up did not occur on the treated sea-wheatgrass and although there was some die-back it was not enough to be able to create suitable nesting habitat. The Red-capped Plovers made six nests in front of the sea-wheat grass covered dunes this year at Semaphore South, only one nest was successful and produced a fledgling.

v. *Human Trampling*

One nest was recorded in the portal as having failed, the suspected cause was human trampling as foot prints were found through the scrape location. No egg fragments were found.

The threat of trampling by humans is highest at the Adelaide metro sites especially during school holidays, weekends and if nests are close to access pathways and the Semaphore Surf Lifesaving Club.

vi. *Sand carting activities*

Sand-carting is an annual activity undertaken by the Department for Environment and Water to replenish sand at the more southern metro Adelaide beaches where sand is lost due to erosion and long shore drift. Sand carting this season involved using large, mining equipment sized vehicles, to collect sand from Semaphore south beach (Bower Road) and deposit it on West Beach.

The obvious size, fast movement, and time of year of activities continues to be a significant threat to the breeding success of Red-capped Plovers at Semaphore South beach. In 18/19 sand-carting commenced in October at a time when five active nests were recorded in the location of operation. Four of these nests miraculously hatched chicks however none of those chicks were observed to have fledged. It is likely the sand-carting activities contributed to their failure as it: prevented the chicks from reaching the water's edge to feed, forced the chicks to stay within the dunes making them more vulnerable to predators like Silver Gulls and Magpies, created huge wheel ruts in the sand for chicks to get stuck in and trampled or driven over, and disturbed the epifauna and infaunal prey species through the collection of mud and sand at the water's edge causing risks to both chicks and adults in terms of quality of food. It was also observed that

the initial disturbance of mud and sand attracted more birds to the area potentially increasing the risk of chick predation and competition for food for the Red-capped Plovers.

It is understood that the sand-carting will commence again next season. As such, a strong recommendation to operate within the non-breeding season only will be sent to DEW. If this is not possible then more conditions need to be put in place to minimize the threats to adult survival and breeding success for the Red-capped Plovers.


Photo 1. Sand carting activity at Semaphore South. Adult Red-capped Plovers flying out of the way at the water's edge. Photo: Susanne Nikolajsen, May 2019.


Photo 2. Sand carting machinery parked on top of the dune approximately 10m from a Red-capped Plover active nest. Photo: Aleisa Lamanna, October 2019.

*vii. Fox predation*

One nest was recorded in the portal as suspected failed due to fox predation. Fox prints were observed in close proximity to the nest. No egg fragments were found. This record was from Semaphore South where active fox dens have been located for several seasons. The City of Charles Sturt took action in the non-breeding season and fumigated one of the active dens. Council Officer Gary and BirdLife staff Aleisa Lamanna looked for active fox dens in early September and did not find any signs of a fox at that time.

Further north along the Samphire Coast fox predation on eggs and chicks of beach-nesting birds is a significant threat with many fox prints recorded in areas of known Red-capped Plover breeding sites. Adelaide Plains Council have completed fox den fumigation in the past along the coastal stretch from Parham to Port Gawler. National Parks staff may be able to arrange further fox control now that much of the coastal land is within the Adelaide International Bird Sanctuary under the South Australian National Parks system.

*viii. Dogs off leash*

Dogs off leash continue to be a large threat to the breeding success of the Red-capped Plover especially at metro Adelaide sites, Semaphore South Beach to Tennyson.

No records of nest or chick failure due to dogs was recorded in the portal this season however there are many 'unknown' cause of failure records and it is possible some of these many be attributed to dogs.

In past breeding seasons there have been two reports of suspected chick deaths due to off-leash dogs, one at West Lakes Beach and one at Port Gawler. Plus, one **confirmed** chick death due to an off-leash dog attack at Semaphore South Beach witnessed by Volunteer Mary-Ann van Trigt in December 2016. Mary-Ann describes the incident "I witnessed the event personally and recovered the chick and spoke to the dog owner. I gave the chick to Kasun and Jean and was of the understanding that it was to be taken to Melbourne for necropsy. The chick had been given a silver band two or three days prior to its death."

*ix. Drones*

Unmanned aerial vehicle (UAV), commonly known as a drone, are increasingly becoming a threat to beach-nesting birds. They are, or can be, perceived as an aerial predator and as such cause undue stress and cause an incubating adult to come off their nest. This leaves the nest exposed to many threats and may even result in nest abandonment.

Drones have been observed in use at Semaphore South but have not been recorded in the portal as causing failure to a nest or chick this season.

Volunteers are becoming more and more concerned with the popularity and relative uncontrolled or unregulated nature of drone use at the beach.

x. Vehicles on beaches

Vehicles, including 4WD and dirt bikes, on beaches pose a serious threat to nests and chicks on several of the Samphire Coast beaches and also Moana Beach south of Adelaide. These locations have known breeding sites of Red-capped Plovers and both have had records of witnessed, suspected, or near misses of nests with eggs and/or chicks being crushed under the tyre of a vehicle. Specific sites where nests and chicks have been recorded as failed due to vehicles are: Port Gawler (witnessed), Thompson Beach (northern sabkha)(witnessed), and Moana (suspected)." Where nesting Red-capped Plovers are found along the metro beaches from West Beach to Semaphore South, they regularly experience near misses of being crushed by the Council vehicle that empties the rubbish bins

located on the foredune each morning. This issue was discussed with City of Charles Sturt Council Officers in 2017 and 2018 and beyond making the vehicle driver aware of the nesting beach-nesting birds we have yet to come up with a better solution to avoid nests/chicks being crushed as when the tide is high (most mornings in the summer months) there is little room for the vehicle to drive but along the top close to the edge of the foredune where the nests are primarily located.

D. Banding

Three Red-capped Plovers were banded this season in October 2019 by BirdLife Staff Dan Lees, Emma Stephens and Aleisa Lamanna. All birds were incubating females caught and banded at Semaphore South. The new leg flag combinations are D0, E3, and C4. All females returned to their nests after being caught and banded and were observed behaving normal in the days following. All three nests successfully hatched chicks with the newly flagged females seen with their chicks. Eleven Red-capped Plovers have been banded at this site since 2015.

An interesting observation was made this season by volunteer Mary-Ann van Trigt related to a flagged bird. She recorded an adult female, flag combination W1, with one fluffy chick at West Beach just south of the Torrens River outlet. This is interesting because W1 was flagged in December 2015 as a breeding female at Moana Beach, which is 35km south of where it bred this season. This is our second observation of this female (W1, photo 3) from a southern metro beach now breeding on a northern metro beach. Breeding success at Moana Beach is known to be very low so it is possible this bird was forced to find a new location to nest. It is not known if the chick fledged from West Beach this season.

Photo 3. Female W1 at Snapper Point, Feb 2017 Photo Dudley Corbett

In total, thirty-one birds have been banded as part of the monitoring program since 2015. Please see Appendix 1 for a list of all banded Red-capped Plovers and their flag ID.

## E. Local Government Support

The monitoring sites stretch across five Council areas. Of these, City of Charles Sturt, which have care of control of the beaches from Semaphore South to the Torrens River outlet at West Beach, have had the most engagement with the monitoring program. From the beginning they have shown support for several management actions such as long stretches (200m) of dune fencing to protect potential nesting sites, nest fencing, signage and a trial to reduce seawheat grass. Last year, with the assistance of BirdLife Australia, they designed a Red-capped Plover interpretative sign which was permanently installed adjacent to a beach access path at Semaphore Park (Photo 4 and 5).



Photos 4 and 5. A permanent Red-capped Plover sign designed and installed at Semaphore Park by City of Charles Sturt in November 2018. Photos Mary-Ann van Trigt

Adelaide Plains Council, Port Adelaide Enfield and City of Salisbury have all had some level of engagement and shown support over the years with the Red-capped Plover monitoring program. This has mainly occurred through the Coastal Officer or Environmental Officer Staff positions within Council. Further engagement with City of Salisbury around the resident Red-capped Plovers and Oystercatchers at St Kilda Bay is an aim for next season.

F. Awareness Raising

This season there was minimal awareness raising activities undertaken in terms of organized activities and events compared with previous years. Limited BirdLife staff time to organize and run events was the cause this season. In previous years we have aimed for a minimum of 3 events (Dog's Breakfasts, training sessions, Plover Appreciation Day) plus an introductory workshop at the beginning of the season. It is the aim again for next season (19/20) provided there can be further staff and volunteer time committed to organizing and running the workshop and events.

In regards to engagement on the beach however, a few key volunteers spent many hours raising awareness and bringing the Red-capped Plovers to the attention of beach users. This was especially true for Semaphore South and Semaphore Park Beach where volunteers have consistently been present and spoken to beach users since monitoring began in 2013/14. Personal communication as well as portal entry comments indicate that about three-quarters of the interactions with beach users at this site are positive and result in a change of behavior. There are still many beach users, including one specific beach dune walker, who choose not to comply with the requests of volunteers to help the birds during the breeding season.

Engagement with the Semaphore Surf Life Saving Club was attempted twice this season. Unfortunately with no communication from the President it was not possible to provide a presentation or information session to the Club members to assist with the monitoring program. However, many SLSC members have been engaged through the volunteers whilst on the beach and ten Red-capped Plover information flyers were left at the Club in December.

At sites further north within the Adelaide International Bird Sanctuary engagement with the public has increased slightly with the Park Rangers being aware of the monitoring program and raising awareness amongst those they speak with in the Sanctuary. This is also true for the Friends of AIBS group who spend a lot of time in the Sanctuary and hold regular monthly activities. Next season's aim is to increase training and volunteer recruitment for the AIBS Parks Staff and Friends group.

## G. Recommendations for 19/20 breeding season

Awareness:

1. Engage the Semaphore SLSC members through a presentation and training.
2. Present at a Metropolitan Seaside Councils Committee meeting on the threats facing the Red-capped Plovers on metro beaches.
3. Further engagement with City of Salisbury around how they can minimize threats to the resident Red-capped Plovers and Oystercatchers at St Kilda Bay. Including sea-grass removal being undertaken prior to breeding season and return of migratory shorebirds.
4. Regarding future sand-carting at Semaphore Beach, a strong recommendation to operate within the non-breeding season only will be sent to DEW. If this is not possible then more conditions need to be put in place to minimize the threats to adult survival and breeding success for the Red-capped Plovers

Training:

5. Provide beach-nesting birds monitoring training opportunities for members of Friends of Adelaide International Bird Sanctuary.
6. Provide workshop and training for Northern and Yorke Landscapes Board Rangers, specifically those working within the Adelaide International Bird Sanctuary.

Weed control:

7. Engage Metro Coastal Conservation Officer to assist with sea-wheat grass removal at Semaphore Beach.
8. Discuss monitoring/survey effort for sea-wheat grass invasion along the Samphire Coast with Northern Coastal Conservation Officer. If Sea-wheat grass is found then begin removal to limit the spread of the coastal weed.

Banding and Flagging work:

9. Apply for monitoring and banding work ethics and Scientific Research Permit through DEW.
10. Continue banding and flagging Red-capped Plovers at sites with large knowledge gaps in breeding success; St Kilda, Pt Prime and Thompson Beach sabkhas and Yankalilla River Estuary.
11. Provide opportunities for volunteers to observe and assist with banding work.

## Appendix 1

Up to date list of leg flag combinations for Red-capped Plovers banded on the Samphire Coast and Southern Beaches since 2015. *(through the Samphire Coast Icon Project 2012-2017 and the Sharing our Shores with Coastal Wildlife Project 2017-2020)*

| Orange flag ID (leg) | Sex & Age | Location | Date of banding |
|---|---|---|---|
| | | | |
| H4 (left) | Female adult | Semaphore South | January, 2015 |
| L8 (left) | Female adult | Semaphore Park | January, 2015 |
| A4 (right) | Male adult | Semaphore South | January, 2016 |
| N5 (right) | Fledged juvenile | Semaphore South | December, 2016 |
| T1 (left) | Female adult | Semaphore South | January, 2016 |
| X7 (right) | Male adult | Semaphore South | October, 2016 |
| R5 (right) | Male adult | Semaphore South | January, 2017 |
| Metal band only (left) | Fledged juvenile | Semaphore South | January, 2016 |
| DO (left) | Female adult | Semaphore South | October,2018 |
| E3 (right) | Female adult | Semaphore South | October,2018 |
| C4 (right) | Female adult | Semaphore South | October,2018 |
| B5 (left) | Chick | St Kilda Saltfields | January, 2016 |
| N7 (right) | Male adult | St Kilda Saltfields | January, 2017 |
| P1 (right) | Female adult | St Kilda Saltfields - Buckland Park Lake | January, 2015 |
| R1 (left) | Female adult | St Kilda Saltfields | January, 2015 |
| S7 (left) | Female adult | St Kilda Saltfields | December, 2015 |
| S8 (left) | Female adult | St Kilda Saltfields | January, 2016 |
| V2 (right) | Chick | St Kilda Saltfields | January, 2016 |
| V5 (left) | Chick | St Kilda Saltfields | January, 2015 |
| X1 (right) | Male adult | St Kilda Saltfields | January, 2015 |
| X2 (left) | Female adult | St Kilda Saltfields - Buckland Park Lake | January, 2015 |
| W4 (left) | Female adult | St Kilda Saltfields | January, 2017 |
| C1 / Yellow (right) | Female adult | Thompson Beach South | December, 2016 |
| L5 / Yellow (right) | Male adult | Thompson Beach South | December, 2016 |
| T8 / Yellow (right) | Male adult | Thompson Beach South | December, 2016 |
| V1 / Yellow (right) | Female adult | Thompson Beach South | December, 2016 |
| W2 / Yellow (right) | Female adult | Thompson Beach South | December, 2016 |
| X4 / Yellow (right) | Male adult | Thompson Beach South | December, 2016 |
| E4 (left) | Female adult | Thompson Beach South | January, 2017 |
| W6 (right) | Chick | Moana Beach | December, 2015 |
| W1 (right) | Female adult | Moana Beach | December, 2015 |