

# Shorebird Roost Rehabilitation at Stockton Sandspit

## Project Report 2016

### Introduction

Stockton Sandspit is a small but vital component of the Hunter Wetlands National Park and is regarded as one of the premier day-time roosts for shorebirds in the Hunter Estuary. Shorebird roost rehabilitation at Stockton Sandspit (the Sandspit) is focussed on a variety of roost habitats favoured by the shorebirds. As an added bonus, these rehabilitated areas provide occasional feeding habitat for shorebirds as well as breeding opportunities for some ground-nesting birds.

Volunteers from Hunter Bird Observers Club (HBOC) have a long association with this site and over the last 16 years have held a strong site presence. Over the last 4 years, HBOC members have been ably assisted by various crews through Conservation Volunteers Australia (CVA) as well as TAFE students and others. This year the additional help from Green Army was a bonus.



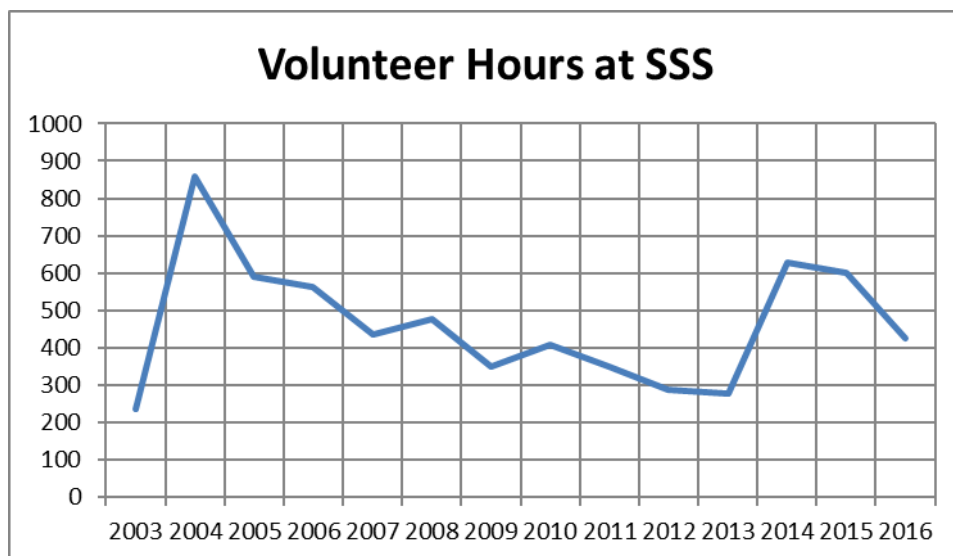
*Figure 1. Shorebird observations are an important component of the restoration efforts.*

## 2016 Contribution

Since we have been keeping records (16<sup>th</sup> April 2003) an aggregate of 6,482.9 hours of volunteer work has accrued. The value of this effort in terms of productive habitat for shorebirds is immeasurable of course, but when figured against contractor rates, it amounts to an in-kind value of almost \$260,000. This is not an insignificant sum.

Volunteers representing International Student Volunteers, Wetland Care Australia (WCA), TAFE, CVA and HBOC visited the sandspit on 17 occasions to carry out restoration works during 2016 and a total of 425 volunteer hours of their time was put to good use. It needs to be acknowledged here that 3 visits by a Green Army crew are not included as volunteer effort but valued just the same.

The 2016 volunteer effort focussed on maintaining high standard saltmarsh and shelly sand areas, removal of mangrove seedlings over all areas plus the annual Clean Up Day activity. This has always been the case over the years. With the additional volunteer resource enjoyed once again this year, restoration of other non-roost areas was also targeted.

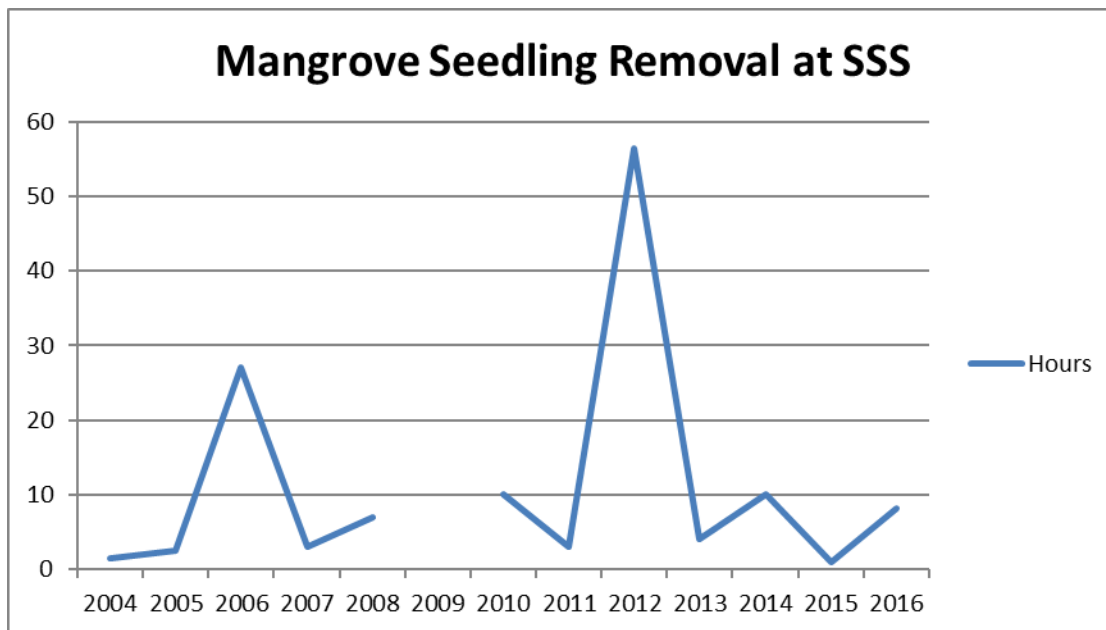


*Figure 2. The decrease in volunteer effort does not completely reflect the overall commitment to the site. Much of the deficit was countered by the additional input of Green Army.*

## Mangroves

To provide a shorebird friendly site all mangrove seedlings are removed from a schedule of designated areas. This is carried out under a licence (Permit PN14/333) issued by NSW Department of Primary Industries (Fisheries NSW).

Over the second week of January, three visits to the sandspit included relatively easy work pulling mangrove seedlings from the various areas.



*Figure 3. With the exception of a couple of spikes, each season presents minimal challenges to clear the roost of mangroves.*

Each year, the new recruitment of mangroves starts with a flush of seeds entering the site usually through August. It was with some surprise to find mangrove seeds on the beach this year in late June. An inspection of the sandspit indicates that this early seeding probably will not lead to any great increase in the effort required to clear the seedlings next year.



*Figure 4. Early invasion of mangrove seeds in the middle of winter.*



## Clean Up Day

The first Sunday of March is when a “traditional” Clean Up Australia effort is made at Stockton Sandspit. This year a great crew of 19 people (17 HBOC plus 2 WCA) turned up and cleared the entire site of rubbish.

Lots and lots of water-borne litter (marine debris) accounts for the bulk of it but each year the place does get its (un) fair share of deliberately dumped rubbish. After an early start, a total of 32 bags of litter plus 4 times that amount in larger items was piled up by late smoko.

Despite these great efforts each year and additional rubbish-runs at other times the amount of litter never seems to diminish.



*Figure 5. There has never been any discernible reduction in litter over the years.*

## Shelly Sand

Shelly sand is preferred by some shorebirds as a place to roost. An additional bonus with this work is that two species of resident shorebirds, Red-capped Plover and Pied Oystercatcher utilise the open sand areas for nesting.

Preparing areas of shelly sand remains the greatest challenge for volunteers each year at the Sandspit and is sometimes referred to as the “great winter effort”. The work is best described as three separate tasks; clearing all vegetative matter from the area firstly before turning over the sandy soil with a rotary hoe and finally raking clean the disturbed soil of as much stray vegetative material as possible.

This year the work got off to a start at the end of May but the first major effort happened two weeks later over a week of favourable low tides. Another week of work was also carried out in June, another two weeks after that.

A combination of International Student Volunteers, Conservation Volunteers (Australia) and Green Army completed the initial clearing of vegetation as well as the final raking of the sand. In between those two jobs, a couple of NPWS field officers came and operated the rotary hoe.



*Figure 6. Volunteers get started on vegetation removal on Big Island.*





*Figure 7. Two weeks later another crew prepare The Shelly.*



*Figure 8. The rotary-hoe work in the final stages of completion.*



*Figure 9. Final raking of the soil being carried out by Green Army.*



## Ground Nesting Birds

### Pied Oystercatcher

Hope of breeding success was felt when in mid-June our resident Pied Oystercatchers were observed copulating. These birds had experienced no success at all over the previous season; surely, they would get it right this year. Over the next 4 days they appeared to be fairly “cuddly” and on one occasion were seen to circle over the nesting area (Big Island) while calling in flight. By the end of the week, however, the pair had reverted to standing-about-loafing type behaviours and it was quite evident that nesting was not going to happen just yet.

Later in June, copulation was witnessed again (on at least two occasions) followed by nest site inspection by the male. The recently raked sands of Big Island were all in order it seemed but unfortunately nothing came of it.

As late as September, breeding behaviours were still being observed and when finally, the hen was seen to walk up to the nest site and stand on “the spot” for some time, expectations rose again. At the same time as the hen stood at the nest site, the male busied himself in chasing away 24 very surprised Rock Doves in a display of keeping the place free of interlopers. Again, nothing came of it.

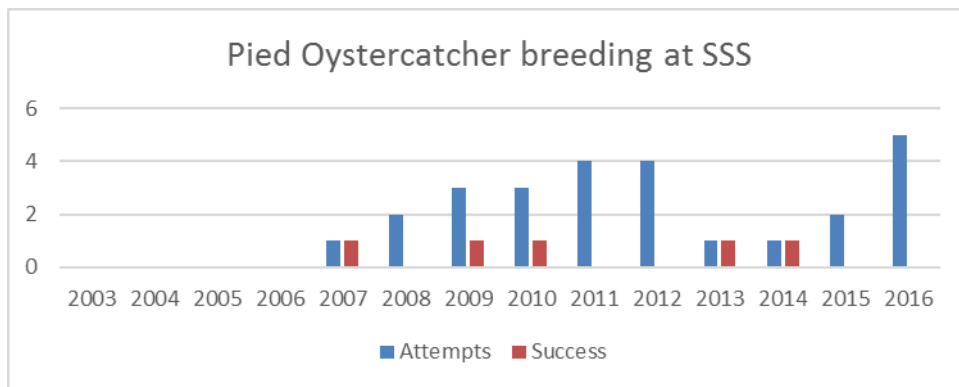
At that stage, at least 4 “test scrapes” had been made in the sand on Big Island. Two weeks later another fresh scrape was found.



*Figure 10. This "test scrape" found in mid-September was the last evidence of attempted breeding for this season.*

Pied Oystercatchers have bred at the Sandspit since 2007 but not always successfully. So far there have been just as many unsuccessful seasons as successful.





*Figure 11. The breeding success of Pied Oystercatchers continues to be a hit-and-miss affair.*

Every year since 2007, these resilient birds have taken advantage of our ground preparation work and while ever they continue to do so our resolve to provide them with this opportunity will continue also.

### Red-capped Plover

On the other hand, the breeding success of our “resident” Red-capped Plovers are showing a decline. In fact, the overall numbers of these birds have declined and the tag of resident is even under question.



*Figure 12. A shell-lined cup on the ground is becoming a rare sight these days. This nest, and another close by was all that could be accounted for this season.*

A total failure to record any breeding behaviours this year is evidence that these bird’s association with the sandspit has significantly lessened. Only two prepared

nests, complete with shell linings, could be found this year and no accounts of runners have been recorded. The trend that has been reported previously of no second clutches (since 2013), therefore continues. No breeding successes for Red-capped Plover can be reported for this season and this can be attributed to an apparent decline in breeding attempts.

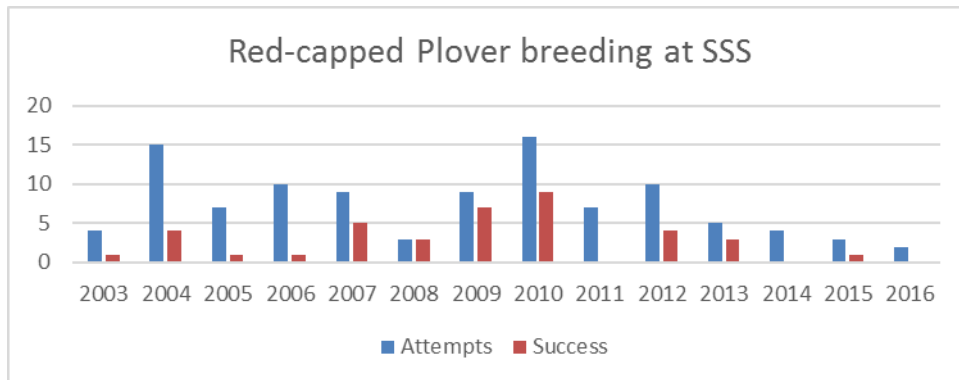


Figure 13. There have been some seasons with low breeding success but the last three years have been exceptionally poor.

It is a fact that over the years the total amount of open sand at the sandspit has shrunk. Firstly, the successful recruitment of saltmarsh plants over a large area of the roost site has established since the process began in 2005 and reduced the available nesting grounds considerably. Secondly, the available ground for “shelly sand” treatment has reduced with changes to the nature of the soil allowing greater invasion of plants and posing greater challenges in clearing the vegetation.

It is interesting to note that the failure of 2011 coincided with a decision not to turn the sand over with a rotary-hoe that year. As much of the sand appeared to be still soft from previous efforts, it was thought that the expense of hiring the equipment could be saved. Unfortunately, it was found that some of the ground was not quite soft enough to facilitate the efficient removal of the vegetation resulting in only 70% of the ground being completed. Also, a trial of “watering” the areas with salt water was done in an attempt to kill the vegetation without the need for physical removal. The result was no apparent benefit noticed at all. There are lessons still to be learned about creating shelly sand.

This shrinking nesting opportunity must surely be a major contributor to the declining numbers of these ground-nesting birds.



## Additional Works

Shorebird roost restoration work is tackled whenever the tides are low and the birds move off to forage. At times when the tides are full our attentions then turn to other areas adjacent to the roost.

An opportunity arose when some planned stabilisation work to the levee was organised by NPWS. Utilising the availability of “many hands”, the installation of sand bags along the levee was carried out by the International Student Volunteers. This provided a nice change of pace for these willing young people.



*Figure 14. Mucking about with sand bags was a welcomed release from the Great Winter Effort.*

Over the past year, weeding through the planted areas near the Bird Hide or under the bridge has continued. Also, maintenance of the established marsh areas of Golden Plover Point, Shelly Marsh and Lagoon Marsh has taken place as circumstances allow.



*Figure 15. Green Army crew tending to the emerging marshes adjacent to the Lagoon.*

TAFE students studying “bush regeneration” made two visits to the sandspit this year. On one occasion, they made a wonderful contribution by treating exotic weeds that had sprouted within the Banksia Grove. This off-roost area had been overlooked for a few years so this work was very timely.

Another great exercise they carried out was a site assessment of the saltmarsh. After examining various facets such as saltmarsh vegetation, density of crab holes and other things, the marshes were given a high score by the students. This was completed after carrying out sweeps across all the saltmarsh areas for seedling *Juncus acutus*; an activity that takes minimal time these days.



*Figure 16. TAFE students practicing their restoration techniques.*



## Acknowledgements

The project continues to succeed because of the valuable input by many people and this aspect is gratefully acknowledged. It is a partnership of people and organisations that provides the structure for it all to happen.

Thankyou National Parks & Wildlife Service, Kooragang Wetlands Rehabilitation Project, Conservation Volunteers (Australia), Green Army, TAFE and Hunter Bird Observers Club.

To every person who has volunteered and left some part of themselves at this amazing site, your contributions have produced many good outcomes and the sandspit-shorebirds continue to benefit from your care.

Tom Clarke

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December 2016



*Figure 17. Pelicans and avocets at dawn.*