

Appendix C

Shorebird Roost Rehabilitation at Stockton Sandspit Report of Volunteer Effort for 2011

Introduction

Stockton Sandspit is a major day-time roost for shorebirds in the Hunter Estuary and is located adjacent to the Stockton Bridge approaches on the eastern end. The sandspit forms part of the much larger Hunter Wetlands National Park.

Restoration works at Stockton Sandspit were initially focused only on the shorebird roost but have expanded to off-roost areas as well. The site works are carried out mostly by members of Hunter Bird Observers Club (HBOC) in partnership with Kooragang Wetlands Rehabilitation Project (KWRP) and National Parks and Wildlife Service (NPWS).



This report attempts to chronicle the restoration works carried out in 2011, savour some highlights and discuss challenges of the future.



Mangroves

The removal of invading mangroves in 2002 heralded the beginning of the restoration effort by volunteers from HBOC. This process continues each year with subsequent removal of each season's seedlings from designated areas at the sandspit.

The 2011 effort proved to be the easiest yet with two people completely clearing all areas in just 90 minutes of purposeful endeavour. That was in January and while we were feeling very pleased with ourselves at the time there was little thought on what the next season might bring.



By October an amazing carpet of mangrove seeds had turned up on the beach and looking like the result of a big year of seed production in the estuary.



A month later seeds could be found all throughout the saltmarsh areas and the Lagoon. While many eventually died (this happens every year) lots and lots had sprouted. A schedule of four days through January 2012 should provide enough time to deal with these new seedlings.

An initial permit, issued under Section 205 of the *Fisheries Management Act 1994*, gave authority to members of HBOC to remove mangroves from Stockton Sandspit Shorebird Roost Site and was valid from 11th July 2002 through to 11th July 2007. The permit allowed the removal of mangroves only within the designated areas and was not transferable. Since the advantages of a mangrove-free sandspit had proven to be so obviously successful for thousands of shorebirds it was agreed that continued mangrove removal must be carried out. A permit renewal was then applied for and subsequently issued under Part 7 of the *Fisheries Management Act* by NSW Department of Primary Industries. This permit “to harm marine vegetation by removal of mangrove seedlings at Stockton Spit” is valid until 20th January 2013.

The continuing nature of this project will see a need to renew the permit again in a couple of years. This process should form part of the NPWS Plan of Management for the Hunter Wetlands National Park and therefore become a little more streamlined in the future.

The *Isolepis* Marshes

Over the last few years Golden Plover Point has been allowed to regenerate into a wonderful marsh that separates two bodies of saltmarsh. This marsh is dominated by the rush species *Isolepis nodosus* and provides another dimension to the available habitat. The area is not affected by tidal waters but still provides a suitable roost for Pacific Golden Plover as well as nesting opportunities for the resident Australasian Pipit. The marsh is



easily cleaned of weeds during each autumn.

Two other areas have begun to develop into similar habitat; one at the weir end of the 'Shelly' and the other is located on the 'Lagoon Margin' at the western edge. Removal of woody weeds in these areas has allowed low ground cover types like pig face to take a hold amongst the rushes and an easy-to-maintain habitat is created.

All three areas are easily dealt with during autumn before the great winter effort of shelly sand creation.

Shelly Sand

By far the largest commitment from volunteers each year is what we describe as the "great winter effort" because this time is dedicated to preparing the roost for the next season's migrant bird arrivals. A major focus of this effort is the creation of shelly sand. The great winter effort has accounted for 75% of the volunteer hours spent at the sandspit since 2003.

Shelly sand is the preferred roosting place for Red Knot, Bar-tailed Godwit, Lesser Sand Plover, Red-necked Stint and Red-capped Plover at the sandspit. Other shorebirds prefer standing in the saltmarsh or in the open water of the lagoon. Shelly sand is also the preferred habitat for our resident ground-nesting birds.

The creation of shelly sand is, of course, a never-ending story as each year the invasion of various plants onto the sand continues unabated. To create shelly sand it is necessary to reverse, at least temporarily, that invasion and remove as much vegetative matter as possible from the substrate. This is achieved mostly through the manual effort of weeding, raking, piling and barrowing but in some years we have aided the process by preparing the ground firstly with a rotary hoe.



An early assessment of the ground led us to believe that rotary hoe preparation was not entirely vital for the 2011 assault. The ground seemed to be soft enough still despite not being tilled for two years. In the end that decision proved to be not the best we could have made and as a result the effort in 2011 completed only about 70% of the targeted area. We will be utilizing the rotary hoe in 2012.



It had often been discussed among sandspit restorers that perhaps the shelly sand creation process could be enhanced by killing some of the weeds by spraying salt water over the area. The logistics of such a practice would require a fair bit of planning and ultimately cooperation from NPWS. The newly appointed NPWS Volunteer Coordinator, Boyd Carney, took on the challenge and ultimately a trial spraying was conducted in late June.



The area covered represented about 50% of the shelly sand of 'Big Island'. After two weeks of monitoring (picture on the left was taken a week after the trial spray and the picture on the right was taken two weeks after spraying) no immediate benefit could be claimed but the exercise did prove that it can physically be done.



Sunday 10th April 2012 (designated volunteer day) marks the start of activities leading into the next winter. The months of May, June and July will see the greatest efforts for the year.

Woody Weeds

When the attention of restorers is not directly occupied with preparing the roost area we go chasing woody weeds. This work is partly to do with keeping those weeds at some distance from the roost and partly to do with providing some quality habitat for non-shorebird types.



Sweeps over the non-roost areas for the usual culprits such as telegraph weed, bitou bush, fleabane, morning glory etc continued during spare moments of 2011. It is encouraging to note that this aspect of the volunteer effort is also becoming easier.

Occasionally we do encounter some more unusual types and last year's rarities included melon, Madeira vine and a patch of Chinese violet.



The unusual sight of seeding *Ipomea indica* was discovered when treating a patch of regenerating purple morning glory.

With the increase of native ground covers such as *Carpobrotus glaucescens* for instance the incidence of exotic plants is on the wane. Continued weeding will be necessary but it is heartening to see some improvements in the non-roost areas.



Rubbish

The amount of rubbish that continues to be dumped or left at the site seems to go on without any sign of slackening. The majority of the rubbish is from deliberate acts of dumping mostly in places under the Stockton Bridge. Other rubbish is discarded by people in cars visiting the car park and on any visit by restorers a car park rubbish run needs to be made before leaving.

Each year of course we hold a special Clean Up Australia Day event and last year the job was done by 7 HBOC members and 2 visitors. Unfortunately a larger than normal pile of rubbish was collected that day with 40 bags plus 500kg of rubbish collected.

Rubbish included all the usual items of bottles and packaging plus the larger items of building materials, car parts, appliances and furniture.



Most unusual rubbish would have to be the left over and forgotten remnants of oil booms from the previous year's oil spill clean up!

Vertebrate Pests

Predation from foxes, dogs and cats on shorebirds and their nests has been recognized as a key threatening process. While the volunteer effort at Stockton Sandspit does not include any direct control measures, the continued observation and reporting of vertebrate pests helps with planning management strategies. Recently a program of reporting fox sightings and other evidence has been put in place by Wetland Care Australia (WCA). The program is focused on the Hunter Estuary and the welfare of the shorebirds that live here.

Over the course of 2011 at least five events have been recorded at the sandspit and these have been forwarded to WCA for entry into a database.



In January, fox prints were found in the sandy substrate of 'Breach Pond' and at least two scats found in a saltmarsh area called 'The Scrape'. One of the scats appeared to be a territory marker sitting up on top of the glasswort.

An amazing sighting of a fox in broad daylight provided a photo opportunity in mid April and later

that month a scat was found in the 'Shelly Iso-marsh' while volunteers were carrying out restoration work.

Fox prints vanished once dog prints (at least two animals) appeared during October and November. These signs were found over the 'Scrape' and near the 'Weir' along with evidence of digging.

Other Disturbances

The sandspit has been a focal point for HBOC and birdwatchers for many years but increasingly this site is also enjoyed by other members of the larger community. It is becoming increasingly obvious that managing the site for shorebirds will include some compromises in the future. These issues need to be discussed fully with proper input from non-birdwatching types in establishing an overarching plan of management for the Hunter Wetlands National Park.



The gathering of "green weed" for bait goes on apace. This feature of the sandspit is very well known within black fish angler circles and on any day a procession of weed gatherers can be witnessed. Some system of control on the amount of weed taken per person should be addressed including action by NPWS to discourage wholesale harvesting for sale in bait shops.

Plenty of other fishers use the various shorelines for their pursuits and occasionally some artistic types leave their mark. It can be

seen as a good thing that people find space for recreation and expression in a "natural" setting but the traffic and resultant disturbances to shorebirds are obvious.



This driftwood sculpture was discovered one morning in June and represents a concerted effort in design and construction. All wonderful stuff, even aesthetically pleasing to the eye but can the sandspit and the shorebirds suffer continued disturbance?

Levee Breach

During the past year or so we have become aware of a reshaping of the Levee in front of Breach Pond. The reshaping is a gradual process and caused by a combination of tides, currents and prevailing winds. The swirling nature of the current during high tide has sculptured two little bays out of the once straight line of the Levee. At one particular location the scouring is intense and by November it was obvious that a breach would happen sooner rather later.



The nature of the saltmarsh areas at the sandspit relies in some part to the Levee remaining sound and forcing all flooding waters to enter the Lagoon across the Weir. NPWS were notified and the installation of replacement sand in a modified configuration is currently being planned for early 2012.

Ground-nesting Birds

The lives and fortunes of our resident ground-nesting birds have captivated most of the sandspit restorers at some time. It is always with great joy that we proclaim "we're uncles (and aunts) again!" as we bear witness to fluffy runners. These birds have learnt to take advantage of our efforts to create areas of shelly sand for particular roosting shorebirds and use the margins of these areas for nesting. Of course they then have a battle on their hands in protecting the patch of ground around the nest site from invading curlews and godwits each high tide but somehow they all seem to sort it out in the end.

Following an amazingly good breeding season last year the successes seem to have taken a dive over this last twelve months. Red-capped Plover breeding during 2010 tipped into 2011 when a hen was found sitting on two eggs in early January. A week later and on the same day that fox paw prints were discovered the nest was found without eggs and abandoned. No further breeding was observed for that summer.

At the end of the winter effort we were excited to witness all the usual behaviours associated with Red-capped Plover breeding. Over the course of two weeks the crew was privileged to witness at very close quarters, behaviours such as courtship, nest site selection, nest building, foreplay and copulation. By the end of August we had four pairs sitting on eggs but by September only two of those nests produced runners. All subsequent breeding attempts in September, October and November failed with nests being abandoned before hatchlings could be produced.

There have been seasons of similar poor performance (2004, 2005 & 2006) but these were followed by three years of high success with last year an absolute bumper. On average since we started recording these things in 2003 the Red-capped Plovers have managed 35 successful nests out of 80 and produced at least 56 dependent but self-feeding runners.

Of course the year started with our resident Pied Oystercatcher family of two adults and one dependent youngster still together. The youngster was seen to fly for the first time in early January at the age of 59 days. The family was seen regularly roosting with the curlews throughout the month and right at the end of January the youngster was seen to leave its dozing parents and take off to the beach to feed by itself. The family group was not sighted again. The only records of Pied Oystercatchers after that were of large aggregate groups hanging about the place.



By April however a pair of adults was at it again protecting the territory of the sandspit and beach. This behavior continued throughout the winter. The ensuing breeding attempts proved to be fruitless but demonstrated the tenacity of these amazing birds.

The first attempt was noted when shell tossing behaviours associated with nest site inspection were witnessed in early September. Two days later the hen was sitting but before the end of the week the nest had been abandoned. A week later the hen was sitting again and this time lasted for at least 4 days before being abandoned for some unknown reason. Early October and the pair was observed copulating and a week later were found sitting on the Dykes across the river. That attempt lasted for at least three days but soon that nest was abandoned as well. The very next day the pair was inspecting a possible nest site back at the sandspit but even though copulation was observed on three more occasions no nesting was ever recorded. Late in November the pair could be seen just

hanging at the sandspit with all motivation for breeding apparently depleted but you couldn't be anything but impressed by the effort they had made over the previous 10 weeks.

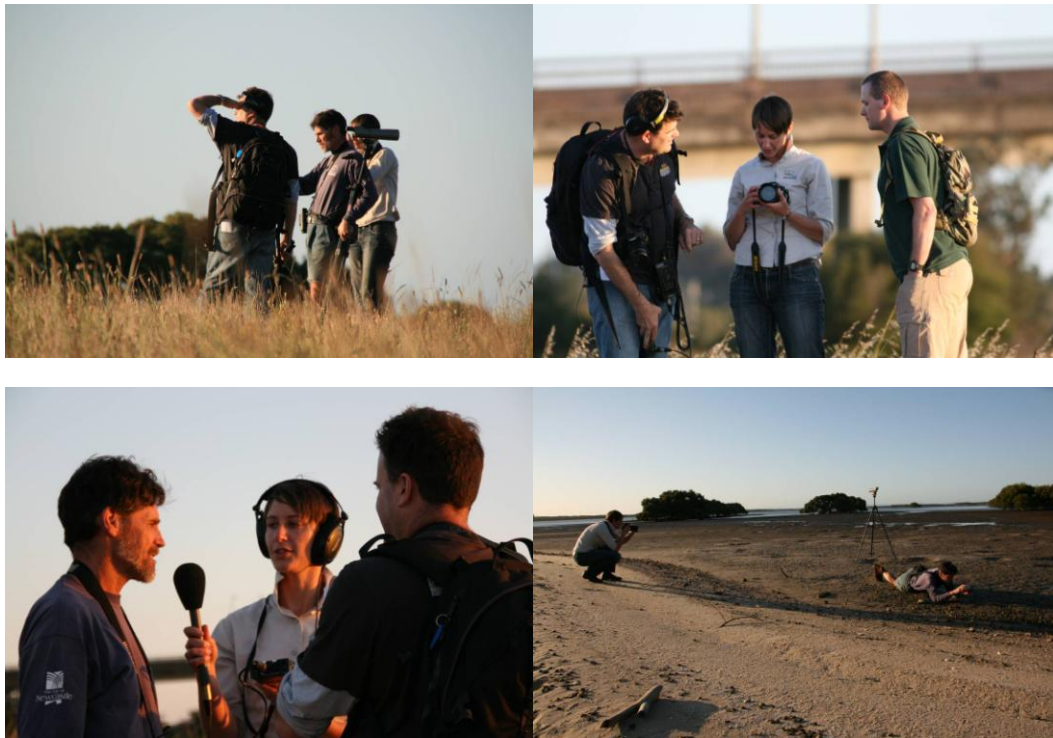
Since 2007 these birds have attempted to breed at least on twelve occasions; three have been successful and have produced four hatchlings. It is a tribute to their parenting though that every hatchling has made it through to independence.

Publicity

Over the years there have been several publicity opportunities to help raise the profile of Stockton Sandspit. During 2011 we have enjoyed a time of heightened awareness with articles in the Newcastle Herald and the HBOC Newsletter. These forums of course target those already with an active interest in nature and the environment.

A community open day held in November aimed at educating families about shorebirds and their lives. Lots of families attended this well organized event and plenty of positive feedback resulted. The success of this event has prompted a NPWS Discovery Rangers event for kids in early 2012.

Mid October had media type people walking about the place capturing images, recording sounds and interviewing people for a "One On One: River Story" episode. After initially being sited on the ABC webpage the final video was eventually placed on the ABC Open River Stories website <http://www.abc.net.au/local/stories/2011/12/23/3397141.htm?site=newcastle>



All very exciting stuff and while the couple of hours of site work resulted in only a few minutes of final edited product the sandspit story in this instance has been presented to a new audience.

Volunteer Effort

All restoration work at the sandspit since 2003 has been firmly based on the volunteer effort from HBOC members and friends. The vibrant nature of the shorebird habitat on this site is a tribute to the dedication of these people.



Over the previous two years the effort required had flattened out to around the 400 hour mark and 2011 continued this trend with 349.5 volunteer hours being recorded. The total contribution since 2003 now stands at 4267 hours and a calculation using likely contractor charge-out rates sums the effort at nearly \$152,000 of in-kind work.



During 2011, the sandspit benefitted from the efforts of at least 14 HBOC members, 4 non-members, and 1 NPWS staffer plus the annual planting day in May by the Koora Gang and friends.

Over the years a register of people and volunteer hours has been kept as well as the documentation of OH&S hazard identification and management. This has been mostly for HBOC records but soon we will be sharing this information with NPWS. With the installation of a NPWS Volunteer Coordinator we have been asked to register our site and people with NPWS. This is not an onerous task at all and in any case we are working on a NPWS park. A reading of the NPWS safety requirements and risk management procedures next year will determine how appropriate our "systems" are.

Schedule for 2012

The following table lists the planned volunteer days for 2012 at Stockton Sandspit. Other additional times will happen as required and by arrangement.

Date	Event	Meet
Sunday 8 th January	Remove mangrove seedlings Stockton Sandspit	11.00am Stockton Sandspit
Sunday	Remove mangrove seedlings	7.00am

15 th January	Stockton Sandspit	Stockton Sandspit
Sunday 22 nd January	Remove mangrove seedlings Stockton Sandspit	1.00pm (after outing) Stockton Sandspit
Tuesday 24 th January	Remove mangrove seedlings Stockton Sandspit	1.00pm (after "crazy crabs") Stockton Sandspit
Sunday 12 th February	Remove woody weeds Stockton Sandspit	1.00pm Stockton Sandspit
Sunday 26 th February	Remove woody weeds Stockton Sandspit	1.00pm Stockton Sandspit
Sunday 4 th March	Clean Up Australia	8.00am Stockton Sandspit
Sunday 11 th March	Remove woody weeds Stockton Sandspit	1.00pm Stockton Sandspit
Sunday 25 th March	Remove woody weeds Stockton Sandspit	1.00pm Stockton Sandspit
Sunday 13 th May	Create shelly sand Stockton Sandspit	7.00am Stockton Sandspit
Sunday 20 th May	Create shelly sand Stockton Sandspit	10.00am Stockton Sandspit
Sunday 17 th June	Create shelly sand Stockton Sandspit	9.00am Stockton Sandspit
Sunday 24 th June	Create shelly sand Stockton Sandspit	1.00pm Stockton Sandspit
Sunday 1 st July	Create shelly sand Stockton Sandspit	9.00am Stockton Sandspit
Sunday 8 th July	Create shelly sand Stockton Sandspit	9.00am Stockton Sandspit
Sunday 15 th July	Create shelly sand Stockton Sandspit	8.00am Stockton Sandspit
Sunday 29 th July	Create shelly sand Stockton Sandspit	8.00am Stockton Sandspit
Sunday 12 th August	Remove woody weeds Stockton Sandspit	1.00pm Stockton Sandspit
Sunday 26 th August	Remove woody weeds Stockton Sandspit	9.00am Stockton Sandspit
Sunday 9 th September	Remove woody weeds Stockton Sandspit	1.00pm Stockton Sandspit
Sunday 16 th September	Remove woody weeds Stockton Sandspit	1.00pm Stockton Sandspit

Acknowledgements

As stated in the introduction, the restoration work is carried out in partnership with other organizations. In particular, the continuing support from Peggy Svoboda (KWRP) and Jo Erskine (NPWS) needs to be acknowledged. The recently appointed NPWS Volunteer Coordinator Boyd Carney has been very active on ground as well as behind the scenes and his contribution over the last twelve months has been significant.

During 2011, the sandspit benefitted from the direct efforts and caring of at least 14 HBOC members, 4 non-members, 1 NPWS staffer and 35 KWRP volunteers.

For their efforts throughout the year I need to thank the following volunteers;

HBOC members - Melva Fisher, Paul Baird, Alan Stuart, Tony Iveson, Caryl and Paddy Lightfoot, Lauren and Leo Branson, Chris Herbert, Liz Crawford, Emma Britten, Ray McLean and Jerry Bullent.

Non-members - Melissa Wilson, Susan Rivers, Melina (friend of Lauren Branson), Juliana Ford and the 35 nameless KWRP volunteers.

Some of the pictures used in this report have been kindly donated by Darryl Luck (all the good bird pictures) and Juliana Ford (river stories pictures and saltmarsh below).

Tom Clarke
HBOC Projects Coordinator
January 2012

