

Ash Island Saltmarsh and Shorebird Habitat Restoration Project

Project Report 2015

Introduction

Ash Island is a significant component of the Hunter Wetlands National Park, located within the Hunter Estuary and mostly bounded by the North and South Arms of the Hunter River. Saltmarsh restoration and shorebird habitat restoration on Ash Island have been a focus for volunteers from Hunter Bird Observers Club (HBOC) since 2005 and together with wonderful support from other organisations have achieved great results.

The effort from volunteers these days continues to be mostly about the hand-removal of mangrove seedlings that have invaded designated areas of interest over the previous year.

Over the course of 2015, a total of 249.9 hours of volunteer contribution was made from a combination of HBOC members and Conservation Volunteers (CVA). This brings the aggregate since 2005 up to 1679.6 hours.

The value of this effort in terms of productive habitat for shorebirds is difficult to quantify of course, but when figured against contractor rates, it amounts to an in-kind value of over \$67,000. This is not an insignificant sum and completely eclipses the initial funding of contractor works back in 2005 and again in 2009.

Licence to do work

A permit, PN 14/333, issued by NSW Department of Primary Industry in December 2014 allows for mangrove removal over all the areas of interest within the Hunter Wetlands National Park. Particular areas of interest to HBOC on Ash Island include; Area E (Swan and Wader Ponds), Teal Waters, Milham Pond and Phoenix Flats. Work under this permit was carried out in 2015.

Site Works at Area E

Mangrove seedling removal at Swan Pond and Wader Pond was not carried out at all during 2014 due to the lack of a permit but by the start of 2015 the necessary authority had been secured to resume restoration in this area. It was estimated that the effort required in 2015 would be somewhere between that of 2011 and 2012 and mostly this was the case with Wader Pond being the pleasing exception.

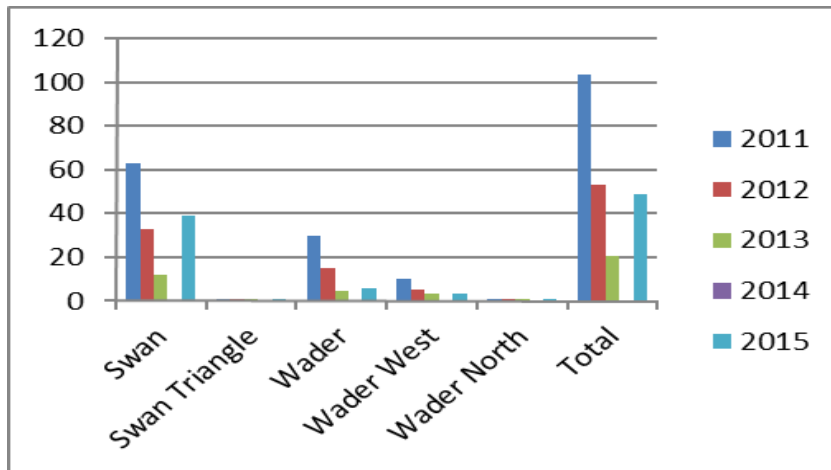


Figure 1. Both Wader Pond and Wader West proved to be less of a task in 2015 than previously estimated.

The effort to remove mangrove seedlings in Area E began in early January and after just two visits both Wader Pond and Wader West were cleared of two-year's worth of invasion. This effort was very satisfying and timely as many of the seedlings were looking more like saplings and heavy in bud.



Figure 2. Two-year old Grey Mangroves in bud would have been dropping fruit by August.

Another season without removing the seedlings and the effort to keep these invaders of the saltmarsh at bay is made just that extra bit more challenging.

Three visits during the following week in January made wonderful progress over Swan Pond and at least 80% of the area had been accounted for. This was made possible by starting the work at the easier northern end and gradually moving towards the more heavily infested south end.

Another three visits at the end of January almost completed the Swan Pond effort for 2015. In the end, however, there would need to be just one additional visit in February.



Figure 3. One final visit in February was required to complete Area E.

A few willing volunteers from a local bush regeneration organisation, Toolijooa, gave up a Saturday morning to knock over the heavily infested section of Swan Pond in just over 4 hours of enjoyable muddy endeavour.

It was good to be back on track with Area E and the knowledge that next year will be an easier effort was a bonus.

Site Works at Milham Pond & Phoenix Flats

The last week of March provided favourable tides for work to begin at Milham Pond and this period took care of Zones A, B, C and 65% of Zone D. Recent wet weather had helped by providing a nice soft substrate so pulling seedlings out was a positive rare joy.

Another brace of visits in early April completed Zone D as well as V1 and V2. Additional help in the form of CVA Better Earth Teams lead the charge to complete Zone V3 and Phoenix Flats by the end of the month.

It was all done for another year and very pleasing to have this work completed in a timely fashion despite the overall effort being greater than last year.

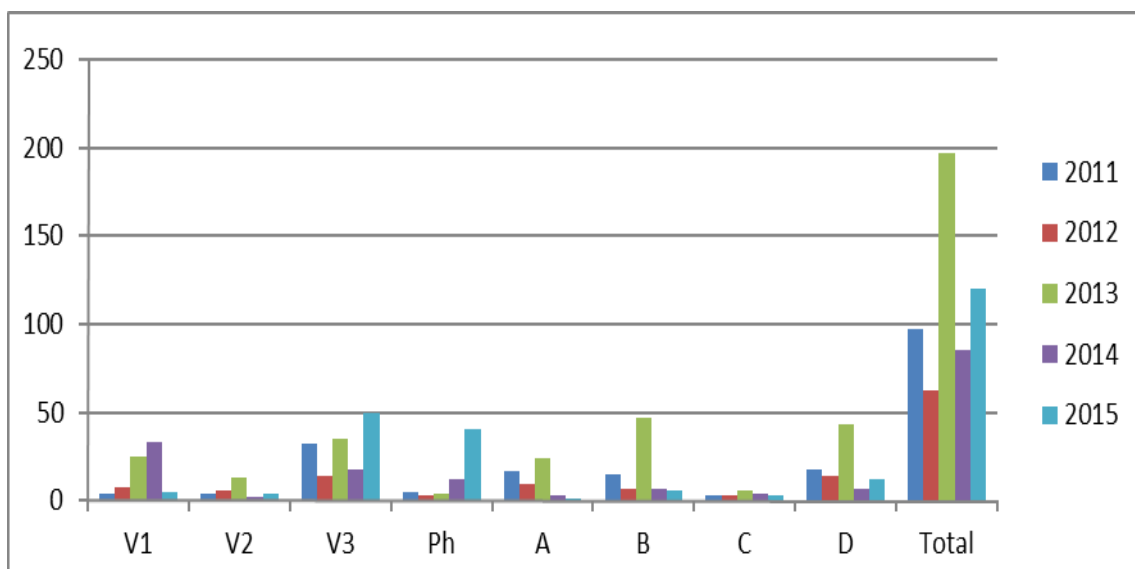


Figure 4. For a second consecutive year the effort to clear Zone V3 and Phoenix Flats is much greater than other zones.

As was the case in the previous year, an eastern bias of mangrove seedling removal effort prevailed at Milham Pond. This is clearly seen in the hours taken to clear the ground. Zone V1 is the exception.

Area	2015 Effort	Comment	
V2	4hrs	Sustainable effort	Central and western areas
A	1.1hrs	Lowest ever	
B	5.3hrs	Sustainable effort	
C	3hrs	Sustainable effort	
D	12.5hrs	Sustainable effort	
1	4.4hrs	Sustainable effort	Eastern areas
V3	49.3hrs	Includes amazing CVA hours	Note that CVA hours are difficult to compare with hours spent by others; a possible factor in the large disproportion.
Phoenix Flats	40.8hrs	Includes amazing CVA hours	

Figure 5. The lower eastern zones attract enormous hours of volunteer effort.

To some extent the prevailing westerly winds during seed invasion in August may be drifting the majority of seeds into the grassy margins of the eastern edge of Milham Pond. It is interesting to note that Zone V1 proved to be back to a sustainable level this year.



Figure 6. A lack of any timber remnants of the mangroves felled several years ago now allow the majority of seeds to travel into the grassy margins along both sides of Milham Pond.

Monitoring at Milham Pond

Each year the recruitment of mangrove seedlings and saltmarsh vegetation is measured in an attempt to monitor the success of the project. Three established quadrats measuring 20m x 20m are cleared of mangrove seedlings and a count is recorded.

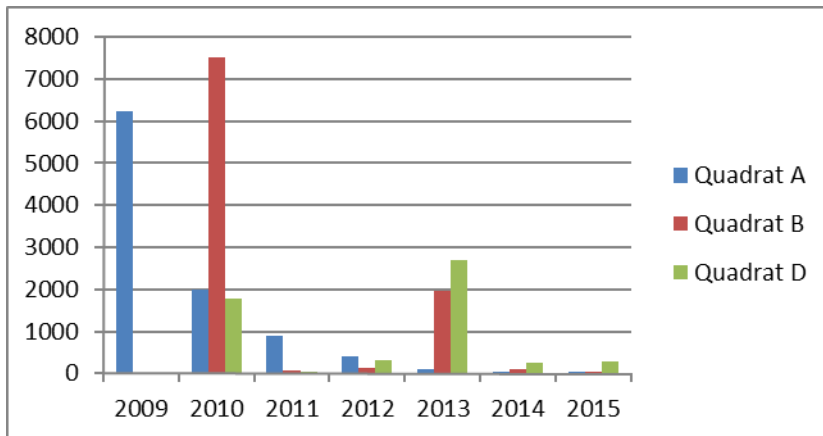


Figure 7. Recruitment of mangrove seedlings continues to remain at low and sustainable levels.

Since the spike in 2013 it appears that the various control measures designed to limit the number of mangrove seeds entering the Milham Pond system are having a positive effect.

At the other end of the spectrum, measures of saltmarsh recruitment continue to increase slowly. Within the measuring area of Quadrat D, the establishment of *Triglochin striata* appears to have reduced from 4% to about 2% of the quadrat while the *Sporobolus virginicus* continues to dominate the space, increasing from 85% to 98% coverage.

The grassy margins along the western edges of Milham Pond are slowly marching out onto the mud flats and saltmarsh vegetation continues to fill out an area near the confluence of the major streams.



Figure 8. Coverage of *Sueda australis* continues to increase in places; April 2012 on left compared to April 2015 on right.

Mangrove Propagule Exclusion Devices (MPEDs) at Milham Pond

To help protect the large investment made each year in removing mangrove seedlings, several MPEDs have been installed at key locations. The purpose of the MPEDs is to restrict the flow of mangrove seeds without affecting fish passage; this is a condition of the permits.

As soon as the first sign of mangrove seeds creeping in is noticed, the task of repairing the MPEDs is carried out. This is usually completed in early August.

Once again in April, the main boom arrangement was breached. Last year it was a grass fire; in 2015 it was the April Super Storm that placed too much pressure on the boom and caused it become untethered.



Figure 9. Damaged by fire in 2014, the boom was affected by storm and tempest in 2015.

Despite this setback all systems were in place again to mitigate the impact of mangrove seedling recruitment.



Figure 10. Look, no mangroves! Milham Pond area was free of mangrove invasion back in 1976. (Tom Kendall)

Acknowledgements

The Ash Island Saltmarsh and Shorebird Habitat Restoration Project continues to be run as a partnership of several organisations with a common interest in estuary restoration. Each organisation has a vital role and the project is blessed by people passionate and willing to get involved, contribute knowledge and lend support.

Many thanks go to those people from NSW National Parks and Wildlife Service, Kooragang Wetlands Rehabilitation Project and Hunter Bird Observers Club.

The efforts of those willing volunteers from CVA Better Earth Teams, Toolijooa and HBOC are all gratefully received and acknowledged.

Tom Clarke

Project Coordinator HBOC

January 2016.



Figure 11. Dawn at Swan Pond never fails to provides a wonderful experience.