

# Ash Island Saltmarsh and Shorebird Habitat Restoration Project

## Project Report 2014

### 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 2014, a total of 99.5 hours of volunteer contribution was made from a combination of HBOC members and Conservation Volunteers (CVA). This brings the aggregate since 2005 up to 1428 hours.

### Licence to do work

A permit, Number P10-2071, issued under Part 7 of the Fisheries Management Act 1994 was secured in November 2010 for "*mangrove removal for shorebird habitat at Ash Island*". The permit was issued by NSW Department of Industry and Investment (I&I) and was valid until 5<sup>th</sup> November 2013.

This permit allowed for the removal of mangroves from several areas of Ash Island including shorebird habitat of interest at Milham Pond, Phoenix Flats, Swan Pond, Wader Pond and Wader West.

A new permit, PN14/333, was received in December 2014 that 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 will be carried out in 2015.

During 2014, work was carried out at Milham Pond and Phoenix Flats under the original Milham Pond permit, P09-2034, which was still valid until 30<sup>th</sup> December 2014.

## 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 (refer above “Licence to do work”).

On two occasions a site inspection of this area was carried out and it is estimated that the effort required in 2015 will be somewhere between that of 2011 and 2012.

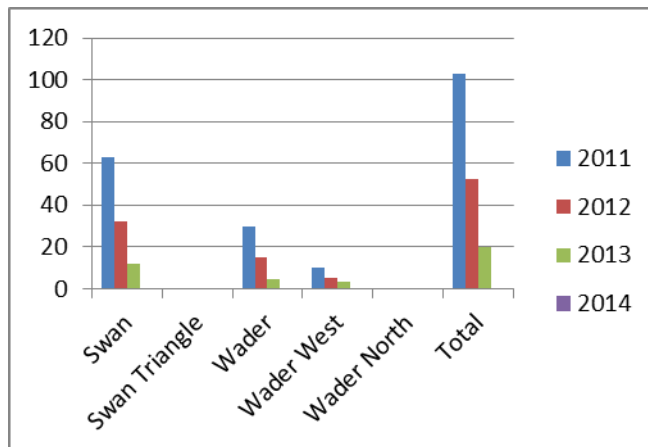


Figure 1. Site works at Area E was nil in 2014.

The effort to remove mangrove seedlings in Area E will be sustainable once the program gets back on track.

The most apparent result of the NCIG sponsored tidal gates on Fish Fry Creek is the killing of mature mangroves in an area just upstream from the gate. No apparent effect at this stage can be seen at all with mangrove seedlings on Swan Pond or Wader Pond. Also apparent is the lack of manipulation of the gates to achieve any desired outcomes. Proposed “smart gates” may address this in the future.

## Site Works at Milham Pond & Phoenix Flats

A February contribution by a team of Conservation Volunteers got the ball rolling when over three visits they cleared mangrove seedlings from about 80% of Area V1, 40% of Area V3 and 80% of Phoenix Flats. This was a terrific boost to the HBOC team and represented a significant proportion of the total work required this year.

Two visits in March by HBOC volunteers easily accounted for Area A and Area C with what can only be described as excellent results. It was thought then, that this year’s effort may not be so bad after all.

A single visit in April almost accounted for Area B and we were certainly happy that this year was presenting an easier task than the previous.

Three May visits completed Area B and the large Area D in record time. A fourth visit in May completed Area V2 in record time plus we had time to proof sweep over Areas V1, V3 and Phoenix Flats.

This concluded the 2014 effort as an interesting lop-sided pattern had emerged and it was felt that sustainable levels of maintenance have not yet been realised at Milham Pond.

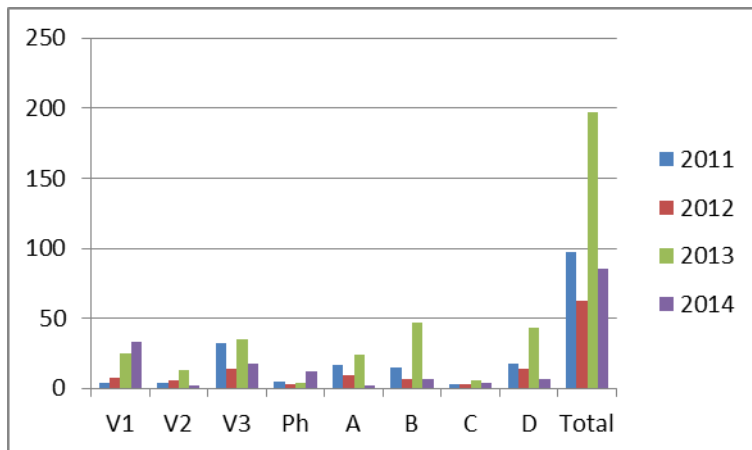


Figure 2. The 2014 effort produced a mixed bag of results.

When tabulated it was obvious that the mangrove recruitment had taken an eastern bias. The effort to clear mangrove seedlings over the central and western areas was completed in record or near-record times. The opposite was the case in the eastern areas.

Area	2014 Effort	Comment	
V2	2.2hrs	Lowest ever	Central and western areas
A	2.5hrs	Lowset ever	
B	6.7hrs	Similar to 2012 (7hrs)	
C	3.5hrs	Similar to 2012 (3hrs)	
D	7hrs	Lowest ever	
V1	33hrs	Highest ever	Eastern areas  Note that additional CVA hours are still to be included here.
V3	17.5hrs	Slightly higher than 2012 (14hrs)	
Phoenix Flats	121.5hrs	Highest ever	

Table A. The eastern areas required a far greater effort to clear the mangrove seedlings.

A likely explanation could be that prevailing winds during seed invasion in August had drifted the majority of seeds into the grassy margins of the eastern edge 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.

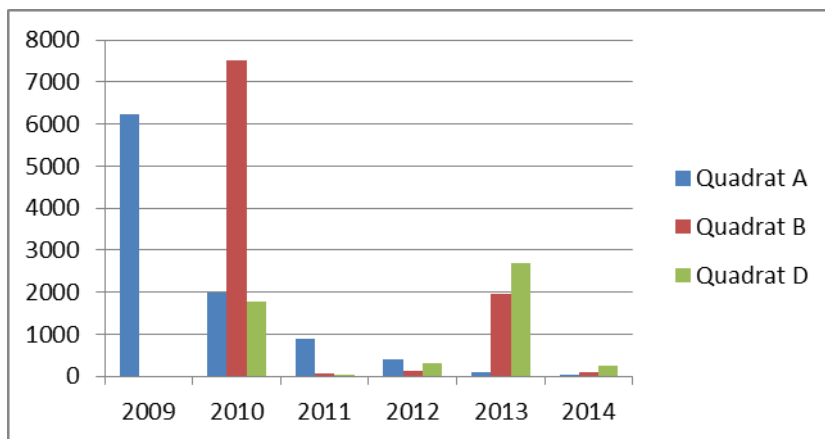


Figure 3. Seedling counts for 2014 forecast a sustainable level of maintenance.

After the previous year's spike in recruitment it was pleasing to find low scores once again. Quadrat A had an almost clear score of 3 only!

While mangrove recruitment was markedly down on the previous year, measures of saltmarsh recruitment continue to increase slowly. Within the measuring area of Quadrat D the establishment of *Triglochin striata* has increased from 2.5% to about 4% of the quadrat while the *Sporobolus virginicus* continues to spread slowly from 82.5% to an estimated 85% coverage.

### 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 was noticed, the task of repairing the MPEDs was carried out. This was completed in early August on the same day that a new replacement boom was installed.

During April, a grass fire unfortunately burnt a 2m section of the boom but thankfully its replacement was procured just in time to make efficient use of this additional protection. This year will be the first time we have had all systems in place on time to protect against mangrove seedling recruitment so next year's efforts (2015) will tell us how effective the combined array (MPEDs plus boom) is.

## **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.

Hunter Bird Observers Club (HBOC) takes responsibility for project design, works planning and implementation of site works and the volunteer effort. Kooragang Wetlands Rehabilitation Project (KWRP) is responsible for some of the administration since this project lies completely within the KWRP lease. NSW National Parks and Wildlife Service (NPWS) are the ultimate land managers and provide assistance to site works and project governance.

Tom Clarke

December 2014.



*Dawn over Milham Pond*