

Appendix C

Milhams Pond Saltmarsh and Shorebird Habitat Restoration Project

2011 Report

Introduction

Milhams Pond is located on Ash Island within the Hunter Wetlands National Park and consists primarily of coastal saltmarsh and tidal mud flats. Milhams Pond is bordered to the north-east largely by a fringe of Swamp Oak *Casuarina glauca* and other trees associated with a revegetation program. A series of grazing pastures lay along the south-west and a complex of mangrove-lined creeks lie to the south. The drainage line running from north to south through Milhams Pond is largely tidal.

The project aims to rehabilitate the saltmarsh and mud flats mostly through the removal of invading mangroves and installation of mangrove propagule exclusion devices. Site works for this current project commenced in June 2009, continued through 2010 and thence 2011. This report covers the work carried out during 2011.

The project continues to be run as a partnership between Hunter Bird Observers Club (HBOC), Kooragang Wetlands Rehabilitation Project (KWRP) and NSW National Parks and Wildlife Service (NPWS). Generally HBOC takes responsibility for project design, works planning and implementation, site supervision of contractors and volunteer effort. KWRP is responsible for administration of a Caring for Country Community Coastcare grant; NPWS are the ultimate land managers.

Bush regenerators from Trees In Newcastle (TIN) have been engaged in contract works funded by a combination of the Caring for Country Community Coastcare 2008 grant and part of donations raised from the Birds Australia Twitchathon 2008.

Licence to do work

A permit, Number P09-2034, issued under Part 7 of the *Fisheries Management Act 1994* was secured in March 2009 for “*removal and exclusion of mangroves from Milhams Pond*”. The permit was issued by NSW Department of Primary Industries and is valid until 30th December 2014. The permit allows the removal of mangroves only within the designated area and is not transferable.

The continuing nature of this project will see a need to renew the permit in a couple of years and it will be only after a proper review of the project and the value it brings to shorebird habitat and recruitment of saltmarsh. A review should take place at least twelve months before the expiry date to allow for the licensing process to be complete before work needs to commence in 2015. 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.

Work Areas

For the purposes of managing the site works, Milhams Pond has been divided into several discrete work areas easily discerned by workers on the ground by using natural features of the landscape such as creeks and the odd redundant fence. For detailed descriptions of these areas refer to *Milhams Pond Saltmarsh and Shorebird Habitat Restoration Project – 2010 Report*.

Previous methods for approximating the various sizes of each work area can only be described as rudimentary. Since then a more accurate system has been employed through use of measuring tools associated with the web based *Near Map* site at www.nearmap.com and a complete re-evaluation has been possible.

Work Site	Old approximation		Near Map measurement	
A	0.4ha	3.4ha	0.64ha	5.24ha
B	0.8ha		1.05ha	
C	0.2ha		0.29ha	
D	2ha		3.26ha	
V1	5.5ha	8.5ha	3.43ha	6.71ha
V2	2.5ha		2.15ha	
V3	0.5ha		1.13ha	
Milham Totals		11.9ha		11.95ha
Phoenix Flat	Not calculated		3.43ha	

The total size of Milhams Pond has not changed greatly at all using the new method but those areas where it was proper to calculate estimates of killed trees etc have all proved to be larger. The resultant reassessment of killed trees is tabled under the heading “Monitoring” in this report.

2011 Site Works

All primary treatment of mangroves had been completed in October 2010 so this year’s effort was all about secondary follow-up work consisting mostly of removing mangrove seedlings of less than one year old. It needs to be noted that mature plants were still within the system and producing seeds from July to October in the previous year.

The site works kicked off with a volunteer effort in Areas V1 and V2 and it was pleasing to find that the effort required had no marked change from the previous year (9 hours 2010; 8 hours 2011). These areas have been cleared of mature plants since 2009 and needs continued follow-up only from now on.

The next day of site works included a team of bush regenerators from TIN and the rate of follow-up coverage was outstanding. The entire ground in Areas A and B was cleared of seedlings as well as Phoenix Flats. It was now clear that the secondary effort would be completed in very quick time. Primary treatment of Areas A and B had totalled 491 actual man hours of site works; this year’s secondary effort took a smashing 31.5 man hours.



Area B (left) had sparse cover of seedlings only. Heavily infested patches were found along the edge of the creek downstream from the MPED.

On the other hand it was interesting to find that the effort at Phoenix Flats had increased from 2 to 5 man hours. It was noted on the previous visit that seedlings in Phoenix Flats appeared to be out of proportion with other areas and probably the result of internal seed production (July to October 2010) being redirected after being trapped upstream of Milhams Pond MPED No.1 on the ebb tides and redirected to Phoenix Flats with the following flooding tide. This process should not happen from now on.



Volunteers getting “stuck in” at Phoenix Flats.

The next day of site works included the TIN team and the focus was entirely on Area V3. The previous year’s primary treatment of this area took place as seed was dropping all over the place so it was thought that no great gains would be seen here. Follow-up treatment totalled 32 hours compared to 48 hours the previous year. Again it is highly likely that this ground will benefit from timely placement of MPEDs from now on.

Area	Hours of actual work		
	Primary	2010 Follow-up	2011 Follow-up
A	317		31.5
B	174		
C	22		3
D	140		18
V1		5	8
V2		4	
V3	48		32
Phoenix		2	5

A volunteer day was placed between contractor visits to complete Area C and carry out some preparation work on Area D. A couple of sections of previously brush-cut saplings had re-sprouted due to stems being cut a little too high and these were easily accounted for with a few hours work.

The final day of site works was a fairly relaxed event with the end well in sight from the outset. Area D cleaned up with a minimum of fuss (18 man hours) compared to the previous primary treatment which took 140 hours. Area C had improved from 22

man hours of primary to 3 hours of follow-up. All mangrove removal work was now completed and well in time to prepare MPEDs for the ensuing fruiting event.

Milhams Pond Hours		
Year	Volunteer	Contractor
2009	199.5	216
2010	303.5	264
2011	68	88
Total	571	568

The hours quoted above are all in terms of actual time actively removing mangroves. The table at left is a tally of on site hours over the last three years and shows the tremendous level of commitment by HBOC volunteers as well as the dramatic drop-off of hours required by both volunteers and contractors since primary work was completed. These hours are used for accounting costs both actual and in-kind.

Forward Planning

Continued follow-up work will be required for the duration of the licence and for as long as we consider this work to be of benefit. This effort is seen as easily covered by volunteers for the short to medium term at this stage. Next year's proposed dates for mangrove seedling removal have been chosen to make good use of low tides and are as follows:

- Sunday 15th April – 10.00am start
- Sunday 22nd April – 2.00pm start
- Sunday 29th April – 8.00am start
- Sunday 6th May – 2.00pm start

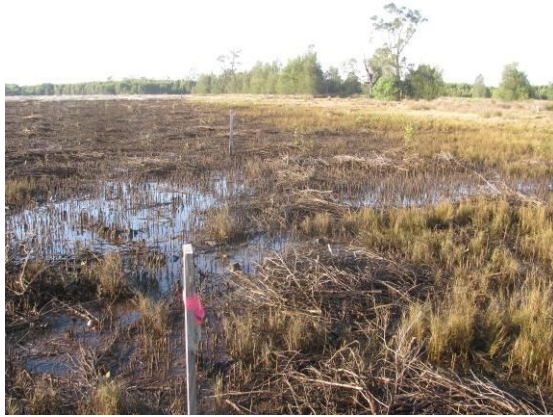
Additional visits to check MPEDs etc will take place as required.

Monitoring

Continued monitoring of mangrove recruitment and saltmarsh restoration is facilitated mostly by surveying three 10m x 10m quadrates established at the start of primary work in their respective areas. The results so far indicate the dramatic reduction of plants after one year of seedling recruitment and in the case of Quadrate A the continuing reduction in seedlings as a result of follow-up removal and the placement of MPEDs. It is expected that the mangrove count will reduce further in 2012.

Quadrate	Mangrove count		
	2009	2010	2011
A	6221	1994	905
B		7508	85
D		1769	36

Another aspect of the quadrate survey is the possible recording of saltmarsh restoration and Quadrate D has already indicated some progress. In 2010 it was estimated to contain a50% coverage of salt couch (*Sporobolus virginicus*). This has improved to 55% coverage and the discovery of 31 individual tufts of streaked arrow-grass (*Triglochin striata*) along the landward edge.



Quadrat D has a 55% coverage of *Sporobolus virginicus* plus a band of *Triglochin striata*. This area will certainly be the first to be impacted on by invading saltmarsh plants.

A condition of the Fisheries Permit is to estimate the number of mangroves destroyed during the primary treatment. A calculation was made last year using the initial results of the counts combined with the estimated areas of each work area. Since the areas are now more accurately obtained a second review is necessary.

Estimates of mangroves using quadrat counts					
Quadrat	Non-trees	Trees	Area	Non-trees	Trees
A	6183	38	A (0.64ha)	395,712	2,432
			C (0.29ha)	179,307	1,102
B	7476	32	B (1.05ha)	784,980	3,360
D	1769	0	D (3.26ha)	576,694	0
Total				1,936,693	6,894

Note that for the purposes of these counts, trees were considered to be those plants with a stem diameter too great to be felled with loppers; saplings those plants too great to be cut with secateurs and seedlings all other plants. Trees therefore required machines such as heavy duty brush cutter or chainsaws to fell.

Mangrove Propagule Exclusion Devices

Mangrove propagule exclusion devices were inspected and refurbished in August once it was noted that mangrove seeds had started to drop in the estuary. This work took only 1.5 hours on site for two people to refit new mesh and make sure the posts were secure.



Subsequent inspection since has confirmed the MPED's structural integrity and functional efficiency. These structures have been inspected by a Fisheries representative to document and map exact locations. This information is now part of the current licence.

An inspection of the site of the downstream confluence of the main streams has reignited efforts to have a floppy design MPED installed at this location. A design that incorporates a floating boom with a weighted screen looks likely but an amendment to the Fisheries Permit is required. Negotiations are continuing.

Nature of Milhams Pond

With the site works program being so short this year compared with other efforts the amount of casual bird sightings etc has taken a dive. Not too much to report on this time besides the regular four Eastern Curlew that seem to have adopted this place over the winter and a couple of sightings of Gull-billed Tern hawking over the open water. During any visit to Milhams Pond there will be at least several, sometimes lots, of White-faced Heron or White Ibis feeding and loafing.

One good sighting of note was that of a Brown Quail flushed from the margins and very close to where we found a quail nest the previous year. Another delight for mangrove removalists is the occasional visit by a mob of White-fronted Chat; best count was 30 birds.

Excellent records of Milhams Pond birds have been kept by HBOC member and KWRP volunteer, Neville McNaughton, who has made some wonderful discoveries in the later half of the year. A June sighting of 34 Bar-tailed Godwit was enough to raise the hopes of all those wishing for some good bird numbers since the heavy work was complete. But the clincher came in October when a report of Red Knot on Milhams Pond was posted on *Hunter Birding* by Ann Lindsay

"This morning 9 October, Neville thinks he saw about 1000 Red Knot feeding on Milhams Pond on Ash Island at about 7.30am. By the time I arrived there were about 250 roosting in a tight bunch. We went on down to Swan pond where about 420 were feeding and intermittently roosting. They were feeding in the water up to their bellies"

All people involved in the project have been feeling great amounts of joy and satisfaction ever since.

The November sighting of a Painted Snipe is also of interest as well as the return of a small flock of Red-kneed Dotterel.

Accounting

	Contractors	Equipment	Totals
Caring for Country (\$20,020)	\$19,287.66	\$654.43	\$19,942.09
Twitchathon 2008 (\$10,000)	\$10,533.68	\$137.16	\$10,670.84
			\$30,612.93

All monies from both sources of funding have been spent and the costs were primarily for the contractor component of the works.

The final Caring for Country report to Hunter-Central Rivers Catchment Management Authority was sent at the end of June 2011 and the last of the Twitchathon money was spent in July after the final day of site works by the contractors.

Acknowledgements

Since this project continues to be run as a partnership it is vital that all the organisations mentioned in this report have a solid interest and commitment to the project. It is heartening, therefore, that each organisation continues to have people passionate and willing to get involved, contribute knowledge and lend support.

With particular reference to this project I would like to acknowledge the support of Peggy Svoboda (KWRP) and Peta Norris (NPWS) whose combined contributions provide the governance required for this project to reach its potential. It is with great joy and admiration that I acknowledge the energetic support of the newly appointed NPWS Bush Regeneration / Volunteer Coordinator, Boyd Carney. Boyd has quickly become the face of National Parks with regards sites works and has made contributions to this project both in the field and behind the scenes.

With regards the funding arrangements for this project, I need to once again acknowledge Twitchathon 2008 for the tremendous support it has showed towards the project and the flexibility allowed in the spending of the allocated funds. This has allowed the project to have a contractor component over three winters and reduce the stress to Milhams Pond and its inhabitants.

Congratulations to the TIN crew is worthy for another year of great interest in the project and for the safe and professional way they have approached their work. A total of twenty TIN bush regenerators have contributed over the last three winters.

Last but not least, I need to acknowledge the continuing support from HBOC member Robert McDonald for his efforts volunteering on site.

Tom Clarke
Project Coordinator HBOC
December 2011.



Appendix A – The Last Mangrove

“There’s lots of lovely filth down ‘ere.”

There was only one mangrove on Milhams Pond. Only one left standing after two seasons of primary work and one season of follow-up; one mangrove and three bush regenerators.



Hmmmm, what to do?



Let’s decide by playing this game of chance.



Can you believe it? Three losers... sorry, winners!



Paper slaps rocks every time. Stand back fellas and I’ll show you how its done.



One very proud bush regenerator - the envy of his peers.



To the victor, go the spoils.



The End.