

# **Regreen The Range 2007-2010 program**

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**A revegetation project of the  
Willunga Hillsface Landcare Group**



## Regreen the Range, Report 2007 to 2010, Forward 17/3/ 2011

In presenting this report the Willunga Hillsface Landcare Group has taken the opportunity to review and record the last three years of Regreen the Range's on- ground works.

However the Group is approaching its 20<sup>th</sup> birthday and it is of interest to place this report in context with our history and with the future.

In the winter of 1991 a group of hillsface landholders met in the old Agricultural hall in Willunga and volunteered to form a working group which then soon became the Willunga Hillsface Landcare Group committee.

In a business-like manner a vision and plan was developed that included the whole of the Willunga Basin and saw the revegetation of the 7,500ha of mostly bare steep Willunga-Sellicks Scarp as the key element in the environmental protection and rehabilitation of the Basin. This project became known as Regreen the Range and seven years later through the Federal Government Natural Heritage Trust, received its first major funding.

In those first seven years the committee were very active in developing partnerships. It fostered a strong relationship with landowners and the community through its bimonthly newsletters and speaker evenings, field days, farm planning, GIS workshops and through the opening of the Willunga Community Landcare Centre. At the high point of these activities the Landcare group had over 250 paid up members.

It saw that growing an association with our major Universities, Adelaide and Flinders, could have exciting possibilities. This proved to be the case with Adelaide's Geography dept. honour graduates producing two masterly theses. One titled 'The Environmental History of the Willunga Basin'. The other title was, 'A GIS of the Willunga McLaren Region'. These both helped form the basis for the implementation of Regreen the Range.

This strong science and community base cemented the partnerships with the Federal and State government, with the City of Onkaparinga and also the local Catchment Board.

The 'Regreen the Range' has been and is a very dynamic, complex and challenging project. Over the twelve year history of the project we have been fortunate to have four very skilful and committed managers. Each has added their individual and special skills to enable this project to flourish and reach its objectives. Peter Bradley the pioneer manager, produced two Regreen the Range Reports in 2000 and 200 . Greg Dalton and Phil Barron, delivered a report in 2006. This '2007 to 2010 Report' was put together by our current manager Wayne Lawrence and as with the other reports is a detailed record including maps, species selection, budgets, challengers and solutions pertaining to each land owner's on- ground works. These 'Reports' are important contributions to our efforts.

In these twelve years over 2000ha of conservation vegetation has been planted, 350ha of woodlot, woody weed control in remnant veg. and surrounding areas, x k of fencing, numerous water troughs, stock crossings and some perennial pasture.

There are many that have recognised Regreen the Range as one of the most significant community driven revegetation projects in Aust. The large area of plantings, the Committee

and management approach and the many innovations have contributed to this. However it is the inspired action and commitment of these committees over many years, the Hill's landowners, the wider community and also importantly the support of our families, that has sustained this project.

This conservation endeavour has been acknowledged through various awards presented by Federal, State, City of Onkaparinga and the SA Conservation Council.

It is unfortunate that funding for conservation works have tightened considerably, despite the ever increasing pressure on our struggling Biodiversity and Soils and the growing threats of Climate Change.

Our committee will continue to focus on the protection of our hills face remnant vegetation through planting buffer zones and connecting corridors. Threat abatement of weeds and vermin in these areas will also be a part of this process.

The Willunga Hillsface Landcare Group retains its original vision and sees that the vegetation of the Willunga Sellick Scarp in the **longer term**, will create a greater 7500ha Conservation Zone, rich in biodiversity. This 'vision' also understands the wonderful symbiotic relationship that occurs between vegetation and soils and the valuable role this would play in affecting the storm water and the aquifer hydrology associated with our important grape and food growing plains of the McLaren – Willunga districts and in the critical protection of our fragile coastal/marine ecology.

This report along with the earlier contributions, are not only public records of the Landcare groups onground works and progress but are there as an important resource to assist in the analysis and monitoring of the outcomes of this large strategic revegetation project.

John Campbel

President, Willunga Hillsface Landcare Group

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# Report for Regreen The Range

## Feb 2007-June 2010

### 1.0 Summary

This report carries on from previous reports commissioned for Regreen The Range (RGR) and provides an overview of the on-ground works for RGR conducted by the Willunga Hillsface Landcare Group (WHLG) on the Willunga-Sellicks escarpment from February 2007 to end of June 2010. The report outlines the funding arrangements, the properties where on-ground works have been conducted, the on-ground works that were conducted and the funding spent on each property. The report is structured in financial years and for each financial year a summary of the budget and the work performed at a property level is presented. Some of the revegetation carried out on some properties may extend into the next financial year, but where possible, the on-ground works conducted on a property are referred to the financial year that provided the funds. The report also presents the results of surveys carried out on selected properties where revegetation has been conducted. Not all revegetated properties are able to be surveyed every year. Where possible, surveys are done in the spring of the same year the revegetation takes place and then again in the autumn of the following year. The assumption here is that if the seedling or direct seeding survives through the first summer after planting there is a good chance of long term survival for the plant.

From February 2007 to the end of June 2010, 25 different landholders had on-ground works conducted on their properties. Table 1 provides a summary of the on-ground works conducted. The on-ground work consisted of; over 23,000m of fencing being established to restrict stock from creek lines across the hillsface, over 185ha of revegetation being planted, twelve alternative water points funded, along with four creek crossings and over 30ha of woody weed control being undertaken to protect remnant vegetation. The WHLG has received funding from a number of sources; the primary source being the Adelaide Mount Lofty Ranges Natural Resources Management Board (AMLR NRM) Board with other funding provided by the Federal Government through the Community Water Grants program and the Community Coastcare program.

There has been mixed success with the revegetation across the hillsface from year to year. 2008 was a very poor year for rainfall, this along with major kangaroo damage on some properties resulted in very low survival rates for the revegetation. 2009 was a more successful year in relation to seedling survival

but very poor for direct seeding survival. Unusually high temperatures experienced in November are the most probable cause of the low success rates of the direct seeding. In 2009 the majority of the seedlings were planted using onion mesh guarding and this proved to be a successful deterrent to the kangaroos. Losses experienced due to the complete removal of the seedlings by kangaroos soon after planting were reduced to an almost insignificant level on the majority of properties. Properties that have a large resident kangaroo population still suffer unacceptable losses and other forms of deterrent need to be found to reduce these losses. Onion mesh guarding is now used on all properties across the hillsface for revegetation, and although it is a little more expensive to undertake, it has proven to be money well spent.

The 2010 planting year started well with good rainfall events occurring in August but good rainfall needs to occur in spring and summer for the seedlings and direct seeding to have the best possible chance of survival.

The major woody weed control undertaken has been the removal of Olive, Blackberry, Boneseed and Montpellier Broom. Olive control is an ongoing program across most properties while Blackberry control is generally restricted to the creek lines and is becoming less of a problem across the hillsface. A major fire on a property on the hillsface presented a great opportunity to undertake control of Montpellier Broom within good quality remnant stringy-bark woodland. After the fire, the vast majority of the Montpellier Broom seed in the soil germinated, so this provided a great opportunity to eliminate the Broom from this property at a relatively low cost as otherwise would have been the case had the fire not passed through the property.

Overall, the last three and a half years have proved to be successful for the WHLG. Substantial amounts of funding have been secured for RGR from both the Federal Government and the AMLR NRM Board and the group continues to have support from the local community and local landholders. RGR is now having a substantial visual impact across the hillsface escarpment with the revegetation clearly visible from many kilometres away.

Table 1 Summary of On-Ground Works for the period Feb. 2007-June 2010

<b>Financial year</b>	<b>Revegetation (ha)</b>	<b>Fencing (m)</b>	<b>Remnant vegetation protected (ha)</b>
Feb. 2007-June 2007		2885	4
2007-08	92.2	4900	7
2008-09	59	4800	2
2009-10	34	11,280	18
<b>Total</b>	<b>185.2</b>	<b>23,865</b>	<b>31</b>

## **2.0 Feb 2007-June 2007**

Restoring Balance assumed project management for RGR in Feb. 2007. Table 2 shows the properties, the work conducted and the funds spent on each property from Feb. 2007 to the end of June 2007. Table 3 shows the budgetary arrangements as of Feb. 2007. All monies were expended by June 2007. The major on-ground works conducted from Feb. 2007 to June 2007 were woody weed control and fencing of creek lines. No revegetation occurred from Feb. 2007 to June 2007.

On-ground works were conducted on fifteen different properties from Feb. 2007 to June 2007 for a total expenditure of \$36,075. \$18,564 was spent on woody weed control on 14 different properties. Olive was the main woody weed removed along with Blackberry, Dog Rose, Montpellier Broom and African Daisy. \$10,120 was spent on fencing for three properties with the remaining \$7,391 spent on pest control, water points and creek crossings.



Table 2 Properties showing work done and monies spent from Feb. 2007-June2007

Property	Work done	When Done	Funds Spent GST exc.	Contractor used
Badger (Mt. Wilson)	Blackberry, fencing, crossings, water points	Feb-07	\$11,220	Myall, various
Edwards	Olives & Dog Rose	Mar-07	\$1,250	Myall Productions
Beal	Olives	Jun-07	\$2,490	TES
Brown	Olives	Jun-07	\$1,500	Creation Care
Campbell	Blackberry	Apr-07	\$650	Creation Care
Elmslie	Olives & Dog Rose	Jan-07	\$1,250	Myall Productions
Fopp	Olives/blackberry	Jun 07	\$990	TES
Hoskin	Olives & Dog Rose	Mar-07	\$1,000	Myall Productions
Gerhardy	Fencing	Jun-07	\$375	Tim Wadlow fencing
Gilmour	Montpellier Broom, Olive, African Daisy, Briar	Mar-07	\$1,500	Myall Productions
Hersey	Olives	Apr-07	\$500	Creation Care
Johns	Blackberry	Apr-07	\$1,934	Creation Care
Screenings	Olives	Jun 07	\$1,000	Creation Care
Shaw	African daisy, water points, crossing, fencing, re-veg	Apr-07	\$6,725	Myall, owner
Taylor	Olives	Jun-07	\$1,500	owner
Tregloan	Pest animal control/ crossover	Feb-07	\$2,191	various

Table 3 Budgetary situation as of Feb. 2007 showing monies allocated for on-ground works to June 2007

Project Summary to June07			
Item	Comments	NRM 07 BUDGET	BALANCE
Project Management		\$21,000	\$1,424.57
Threat abatement plans			0
Threat abatement			0
Expert advice			0
Weed Control		\$20,000.00	\$8,916.00
Revegetation			0
Seed/seedlings		\$6,000.00	\$5,978.60
Bait/guards			0
Fencing	4km	\$10,000	\$10,000.00
Promotion			0
Demonstration sites			0
Capital			0
Capacity building/Education			0
Watering points	six @\$400.00 ea	\$2,400.00	\$2,400.00
Culverts,stock crossings	four @\$1000.00 ea	\$4,000.00	\$4,000.00
Pasture			0
Pest control, animal	10ha	\$2,000.00	\$2,000.00
Office costs			0
	Totals	\$65,400.00	\$34,719.17
<b>Work to be conducted</b>		<b>Funding for</b>	<b>Responsibility</b>
Badger	\$800 for w/points, (\$6,620 for fencing, \$2,000 crossing, \$800 for 2 w/points possible)		Amount
Shaw	\$3125 for fencing, \$800 for reveg, \$1000 for crossings, \$800 for water points		\$10,220.00
Taylor	weed control		\$5,725.00
Gerhardy	fencing	owner	\$1,500.00
Beal	woody weed	TESS	\$375.00
Fopp	woody weed	TESS	\$2,500.00
Brown	weed control		\$1,000.00
Screenings	weed control	Greg Dalton	\$1,000.00
Creation Care	seedlings	Greg Dalton	\$5,980.00
Tregloan	\$1,000 for crossing, \$500 pest animal control		\$1,500
Project Management			\$3,920
Total			\$34,720.00

### **3.0 July 2007-June 2008**

The financial year of 2007-08 was a very successful year for the WHLG financially. The group secured two Community Water Grants (CWG) worth a total of \$97,700 along with AMLR NRM Board funding worth \$112,000. The CWG were for two properties at Sellicks Beach. Herseys' property had \$50,000 to revegetate the headwaters of Sellicks Creek while \$47,700 was for Johns' to revegetate the headwaters of the next creek system to the east of Sellicks Creek. This creek system is the southern most system that flows into the Aldinga Washpool. The NRM funding was broken down to \$49,000 for Biodiversity, \$41,000 for water quality and \$22,000 for project management.

#### **3.1 Community Water Grants**

Two Community Water Grants were submitted to the Federal Government on behalf of the WHLG by Water and Energy Savers. This was instigated by a member of the WHLG committee, Katie Robinson, who worked for Water and Energy Savers. This proved to be very beneficial to the WHLG as both applications were successful. On-ground works for both grants was conducted over three financial years, 2007-08 to 2009-10.

One of the grants was used to revegetate the headwaters of Sellicks Creek (Herseys' property) which begins at the top of Sellicks Hill, flows behind the Sellicks Hill quarry and on the southern side of the Victory Hotel. The on-ground works consisted of pre-planting weed control and revegetating with a mixture of direct seeding and seedlings. Table 4 lists the species, the number of individuals and the weight of seed used.

The other CWG was used to revegetate the next creek system to the east (Johns' property), which flows into the Aldinga Washpool. The same on-ground procedures were used for this property as for the Sellicks Creek property. Table 5 lists the species, the number of individuals and the weight of seed used.

The plantings for both projects focused mainly in and around the creek lines. The WHLG has conducted revegetation work on both properties previously, and even though some work had been done close to the creek lines, the majority of the previous work focused on the surrounding hills away from the creeks lines.

Creation Care was engaged to conduct the pre-planting weed control. They used a combination of spot spraying using long lines and continuous spraying using micro mist sprayers. The micro mist sprayers were used where the distance was too great for the long lines. The WHLG group utilized the services of a Green Corps team to help with the planting of both projects. The team was based at the Willunga Environment Centre and worked on a number of environmental projects throughout the area. For both

CWG projects the Green Corps team planted all the seedlings while all the direct seeding was carried out by Korra Landscapes.

Not all of the work was completed in the first year of the project so left over funds were used in subsequent financial years to complete the project.

Figure 1 and Figure 2 shows the location of the plantings at Herseys' and Johns' respectively and the success observed in the Autumn 09 survey. The numbers represent the number of spots surveyed, and the observed presence of a seedling or the germination of direct seeding at the spot.

Table 4 Species and quantities of seedlings and seed (in grams) planted at Herseys'

Species	Common Name	seedlings/08	seed (gms)/08	seedlings/09	seed (gms)/09
<i>Acacia acinacea</i>	Wreath Wattle		300	98	200
<i>A. melanoxylon</i>		150	150	136	
<i>A. myrtifolia</i>			150	90	
<i>A. pycnantha</i>	Golden Wattle		200		500
<i>A. retinodes</i>		100	250		
<i>A. rupicola</i>	Rock Wattle		30		100
<i>A. verniciflua</i>	Varnish Wattle		75		
<i>Adriana klotzchii</i>					100
<i>Billardiera cymosa</i>				22	
<i>Bursaria spinosa</i>	SA Christmas Bush	100		55	200
<i>Allocasuarina striata</i>	Stalked oak-bush		20	50	90
<i>A. verticillata</i>	Drooping Sheoak	750	500	500	
<i>Atriplex semibaccata</i>				30	
<i>Callistemon sieberi</i>		150			
<i>Dianella revoluta</i>				68	
<i>Enchylaena tomentosa</i>				44	
<i>Eucalyptus camaldulensis</i>	River Red Gum	150		125	
<i>E. fasciculosa</i>	Pink Gum	500	300	740	400
<i>E. leucoxyton</i>	SA Blue Gum	300	100	600	400
<i>E. microcarpa</i>	Grey Box	200		530	
<i>E. odorata</i>		150		720	
<i>E. porosa</i>		100		220	
<i>Eutaxia microphylla</i>				50	
<i>Goodenia pinnatifida</i>		50			
<i>Hakea rostrata</i>		150		25	
<i>H. rugosa</i>					140 seeds
<i>Hardenbergia violacea</i>	Native Lilac	100	150	156	
<i>Kennedia prostrata</i>		200	25	12	
<i>Leptospermum continentale</i>		500	150	400	
<i>L. lanigerum</i>		150			
<i>L. myrsinoides</i>		300	150		
<i>Melaleuca decussata</i>		200	50	175	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	150	50	122	100
<i>Pultenea daphnoides</i>		200		10	
<i>Xanthorrhoea semiplana</i>	Yacca	350		300	
	<b>Total</b>	<b>5000</b>	<b>2650</b>	<b>5278</b>	<b>2090</b>

Table 5 Species and quantities of seedlings and seed (in grams) planted at Johns'

Species	Common Name	seedlings/08	seed (gms)/08	seedlings/09	seed (gms)/09
<i>Acacia acinacea</i>	Wreath Wattle		200	98	150
<i>A. melanoxylon</i>		100	100	136	
<i>A. myrtifolia</i>			100	89	
<i>A. pycnantha</i>	Golden Wattle		150	0	1000
<i>A. retinodes</i>		100	200	205	100
<i>A. rupicola</i>	Rock Wattle		20	100	100
<i>A. verniciflua</i>	Varnish Wattle		50	0	
<i>Atriplex semibaccata</i>				29	
<i>Billardiera cymosa</i>				21	
<i>Bursaria spinosa</i>	SA Christmas Bush	100		55	100
<i>Allocasuarina striata</i>	Stalked oak-bush		20	50	
<i>A. verticillata</i>	Drooping Sheoak	500	400	500	70
<i>Callistemon sieberi</i>		100		0	
<i>Calytrix tetragona</i>				100	20
<i>Dianella revoluta</i>				68	
<i>Enchylaena tomentosa</i>				44	
<i>Eucalyptus camaldulensis</i>	River Red Gum	100		125	10
<i>E. fasciculosa</i>	Pink Gum	300	200	741	300
<i>E. leucoxyton</i>	SA Blue Gum	200	100	600	300
<i>E. microcarpa</i>	Grey Box	200		535	100
<i>E. odorata</i>		150		723	40
<i>E. porosa</i>		100		220	100
<i>Eutaxia microphylla v microphylla</i>				50	
<i>Goodenia pinnatifida</i>		50		0	
<i>Hakea rostrata/carinata</i>		100		25	
<i>Hardenbergia violacea</i>	Native Lilac	100	100	57	
<i>Kennedia prostrata</i>		100	25	13	
<i>Leptospermum continentale</i>		300	100	400	
<i>L. lanigerum</i>		100		0	
<i>L. myrsinoides</i>		200	100	0	
<i>Melaleuca decussata</i>		150	30	175	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	100	40	122	
<i>Pultenea daphnoides</i>		150		10	
<i>Xanthorrhoea semiplana</i>	Yacca	250		300	
	<b>Total</b>	<b>3550</b>	<b>1935</b>	<b>5591</b>	<b>2390</b>



Figure 1 Location of revegetation at Herseys' and the success observed in the Autumn 09 survey. Numbers are spots surveyed, surviving seedlings and germinated seed.

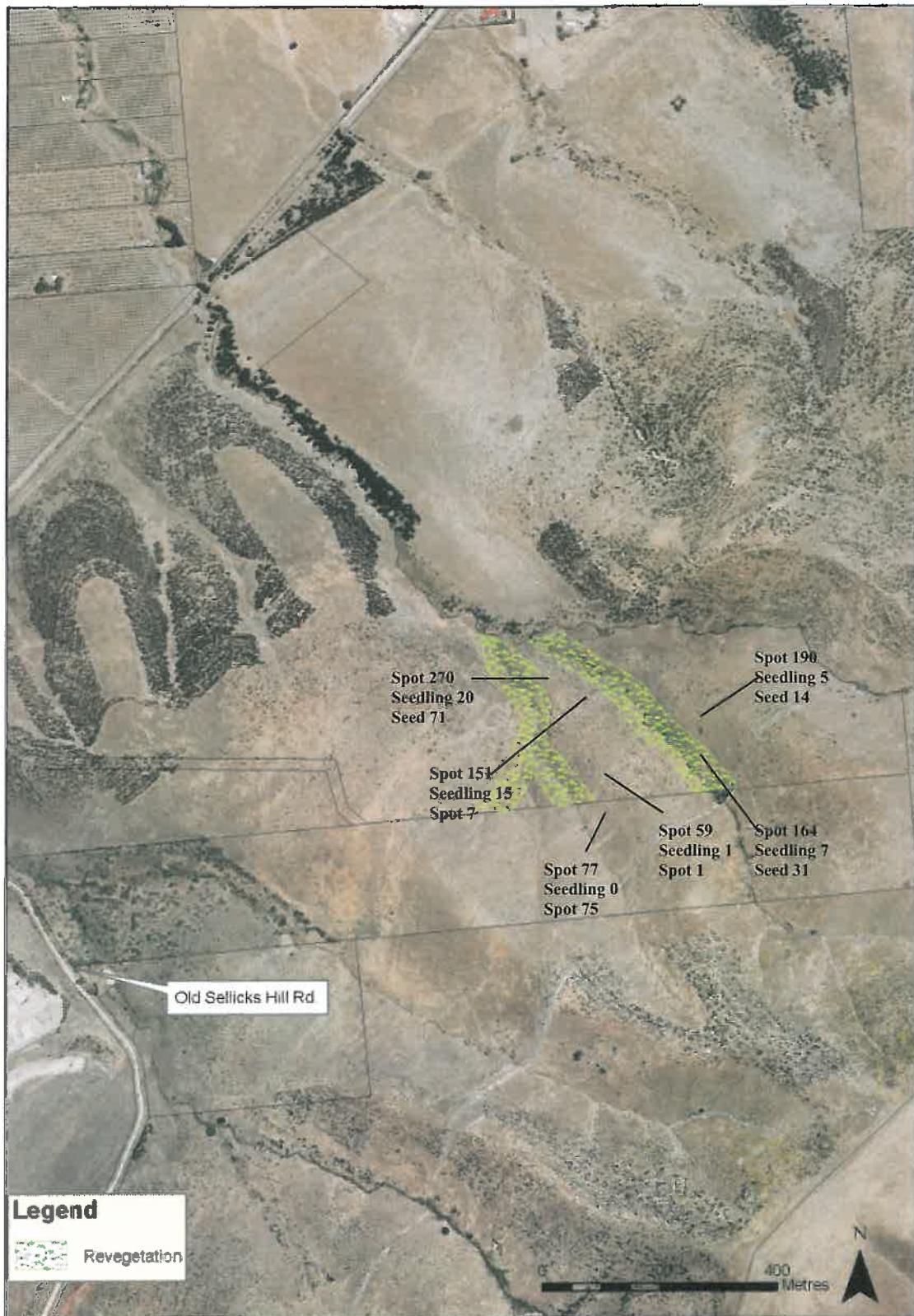


Figure 2 Location of revegetation at Johns' and the success observed in the Autumn 09 survey. Numbers are spots surveyed, surviving seedlings and germinated seed.

### **3.2 NRM Funding 2007-08**

On-ground works worth \$90,000 were conducted on a total of fifteen properties for the financial year 2007-08. This work consisted of woody weed control, fencing, installing alternative watering points, establishing creek crossings and revegetation. Table 6 shows a summary of works carried out and the total cost spent on each property. As the planting season for the RGR extends over two financial years, due to the occurrence of major rainfall events, not all monies for the financial year were spent before June 30<sup>th</sup>. This resulted in some seedlings paid for in one financial year being planted in another financial year. This is the reason for differences between the total cost spent in a financial year and the same financial years budget figures.

The overall success rate of the revegetation for the 2007-08 financial year (planted winter 2008) was poor primarily due to low rainfall across the region. Rainfall statistics recorded at Myponga show less than 40% of the long term average rainfall recorded from September to February fell from September 2008 to Feb 2009. The long term mean rainfall for this period is 262 mm but only 102mm was recorded at Myponga from September 2008 to Feb 2009. Myponga generally has a higher rainfall than the Willunga-Sellicks escarpment but the Myponga recordings are the closest Bureau of Meteorology (BOM) weather station to the project sites. Many of the sites were planted late in the season, as late as October, but due to the poor rainfall patterns for spring and summer the success rates of many of the properties were very poor.



Table 6 Summary of properties, work conducted and NRM money spent for financial year 2007-2008

Summary of OGW 07/08														
Property	Work done	Area ha	Weed control area/spots per ha	Pre-planting cost weed control	Seedlings planted	woody weed control	other	cost other	cost seeding	cost planting	Direct seeding spots	cost direct seeding	Total cost spent GST exclusive	07-08 budget
Badger	reveg	0.5			400				\$220	\$220			\$440	\$220
Beal	Olive control	1				\$2,500							\$2,500	\$2,500
Beal	Reveg	21	21ha/800	\$4,246	4700				\$2,585	\$2,395	12600	\$5,040	\$14,266	\$14,266
Dyer/van Camp	Reveg/fencing	21	21ha/800	\$4,821			Fencing 1300m	\$8,750					\$13,571	\$13,571
Fopp	Olive control	1				\$1,000							\$1,000	\$1,000
Foster	reveg	1			670				\$335	\$335	290	\$130	\$800	\$465
Gerhardy	reveg	2.7	2.7ha/1000	\$735	2750		Planting TFL 720	\$450	\$1,375	\$1,375			\$3,935	\$2,560
Giles	reveg	3	3ha/800	\$735	2350				\$1,175	\$1,175			\$3,085	\$1,910
Gilmour	woody weed control (broom)	1				\$840							\$840	\$840
	woody weed control (bone seed/olives)	1				\$2,985							\$2,985	\$2,985
Horsfall	Blackberry control	1				\$1,205							\$1,205	\$1,205
Johns														
Lewis-Christie	Reveg	6	6ha/800	\$1,512	1300				\$2,296	\$2,296			\$6,104	\$6,104
Screenings	reveg	12	12ha/1000	\$2,938	2800				\$1,400	\$1,540	8250	\$3,300	\$9,178	\$7,778
Shaw	Fencing/water crossing						Fencing 1800m/water points 2	\$7,100					\$7,100	\$7,100
Thomas	reveg	6	6ha/800	\$1,469	1900				\$950	\$950	4000	\$1,600	\$4,969	\$4,019
Thomas (re-done)														
	reveg/woody weed control (scotch thistle)/fencing	1			1000					\$550			\$550	\$550
Tregloan						\$1,530	Fencing 1800m	\$6,309					\$7,839	\$7,839
	<b>Totals</b>	<b>53.2</b>		<b>\$16,456</b>	<b>17,870</b>	<b>\$10,060</b>		<b>\$22,609</b>	<b>\$11,026</b>	<b>\$10,836</b>	<b>25,140</b>	<b>\$10,070</b>	<b>\$80,367</b>	<b>\$74,912</b>

N.B. As the planting of seedlings can occur over two financial years some propagated seedlings paid for out of the 2006-07 budget were planted in 2007-08.

### **3.3 Woody weed control**

Woody weed control works were carried out on six properties for a total cost of \$10,060. Olive control was carried out on the properties of Beal, Fopp and Horsfall. Broom control was carried out on Gilmour's, Boneseed was removed on Horsfall's and Blackberry control was carried out on Johns'. Some scotch thistle was removed from the property of Tregloan.

The Olive control conducted on Beal's was a pre-cursor to revegetation work being conducted. The Olive control on Fopp's was essentially to try to buffer an area of heritage listed remnant vegetation that is present on the property while the Olive control and Boneseed removal on Horsfall's was to rehabilitate a listed threatened *Eucalyptus porosa* woodland. The broom control on Gilmour's was to protect a good patch of remnant stringybark woodland. The blackberry control on Johns' was carried out in the creek systems that flow through the property. The scotch thistle removed from Tregloan's was in a section of creek line that had previously been fenced and revegetated.

For the Olive control on Fopp's and the initial Olive work on Beal's the cut and swab method was used. For the later work on Beal's the drill and fill method was employed. After discussions with numerous land management advisors the drill and fill method has proven to be a much more efficient method. The Olive control on Horsfall's was on juvenile trees that could be dug out using a mattock. The Boneseed removal involved hand pulling the plants. The broom control on Gilmour's was follow up work from the previous year and involved hand pulling small plants that were either previously missed or had recently germinated. The scotch thistle removed from Tregloan's, was grubbed out using a mattock.

### **3.4 Revegetation**

A total of 53.2ha across 9 properties was revegetated in 2007-08 for a cost of \$48,838. This does not include \$5,455 spent on seedlings from the 2006-07 budget. This cost includes; pre-planting weed control; the cost of the propagated seedlings; and the planting of the seedlings; seed and direct seeding. The largest single property to be revegetated was Beal's with 21ha followed by Southern Quarries with 12ha. Lewis-Christie and Thomas both had 6ha revegetated with a number of other properties having small areas revegetated. Dyer's had fencing and pre-planting weed control for 21ha paid for from the 2007-08 budget while the revegetating of the 21ha was paid for out of the 2008-09 budget.

### 3.5 Properties

#### 3.5.1 Badger

Four hundred seedlings of *Eucalyptus viminalis* spp. *cygnetensis* were planted on the western edge of the heritage area. These species were left over from the planting order and were used to extend the heritage area into areas where there currently is no vegetation present.

#### 3.5.2 Beal

Trials were conducted on Beal's property to try to reduce the impact kangaroos have on the revegetation. Reasonable size patches of remnant vegetation border Beal's property and this appears to offer safe haven for a large kangaroo population. Approximately 200 kangaroos were seen in the area where the revegetation was to proceed. The trials were to spray some sections and leave some sections unsprayed (Figure 3). This was done to try to "hide" the newly planted seedlings within the grasses that are present on the property. The grasses are predominately wild oats although good patches of native *Austrodanthonia* spp are present on sections of the property. The density of the plantings was approximately 800-850 spots per ha. with the direct seeding to seedling ratio being 3:1. A total of 4,700 plants and nearly 6kg of seed from 27 different species were used to revegetate the 21ha.(Table 7)

Pre-planting weed control was done in early June with planting commencing in the middle of June and finishing by the end of June. The rainfall pattern for the winter of 2008 was good. 10-15mm of rain fell on a regular basis, every few days, with fine days in between. Unfortunately the spring rainfall was very poor.

A survey was conducted on the survival rate of the revegetation in Nov. 2008 and again in April 2009. The survival rate was very poor across the entire area that was revegetated. Figure 6 shows a breakdown of the different areas surveyed, the number of spots surveyed and the number of surviving individuals surveyed. The average survival rate recorded across all sections in November was 20%. There was a 22% survival rate in the unsprayed area and a 17.5% survival rate in the sprayed area.

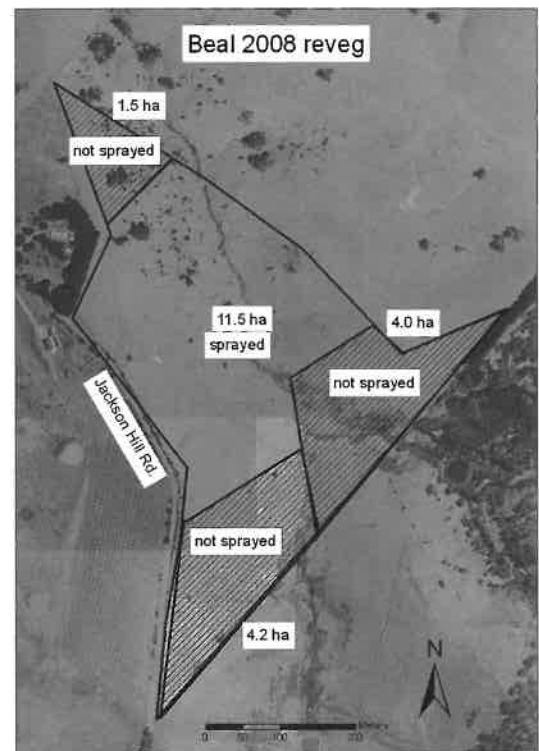


Figure 3 Areas sprayed and not sprayed before revegetation

The average survival rate recorded across the entire property in April was 7%. There are a number of reasons for the failure of the revegetation on this property. The almost total lack of seedlings is probably a combination of kangaroo grazing and lack of rainfall. The large number of kangaroos present on this property resulted in nearly all plants being removed from the ground. This is evident by the surveys conducted in November and April where very few seedlings were present. The trial of

planting seedlings in unsprayed areas seems to have had little effect on the ability of the kangaroos to find them on this property. The poor success rate of the direct seeding is also disappointing. There may be a number of factors that contributed to the lack of success for the direct seeding but the poor rainfall over the spring and summer is the most likely cause. Once again kangaroos may also have had a major impact on the direct seeding in some of the sprayed areas.

Figure 5 shows very little thatch is present on some of the spots after being sprayed. This lack of thatch exposes the bare ground to direct sunlight throughout the spring and summer thereby quickly drying out the exposed soil. Germinated seed in these spots would suffer water stress very quickly resulting in fatal desiccation. As stated previously, the rainfall over the period of September 08 to February 09 was very poor. Less than 40% of the average rainfall was recorded at Myponga for the months of September to February.



Figure 4 Looking east to section of hill sprayed before revegetating



Figure 5 Sprayed spot for planting. No thatch present to protect seedling or direct seeding from drying

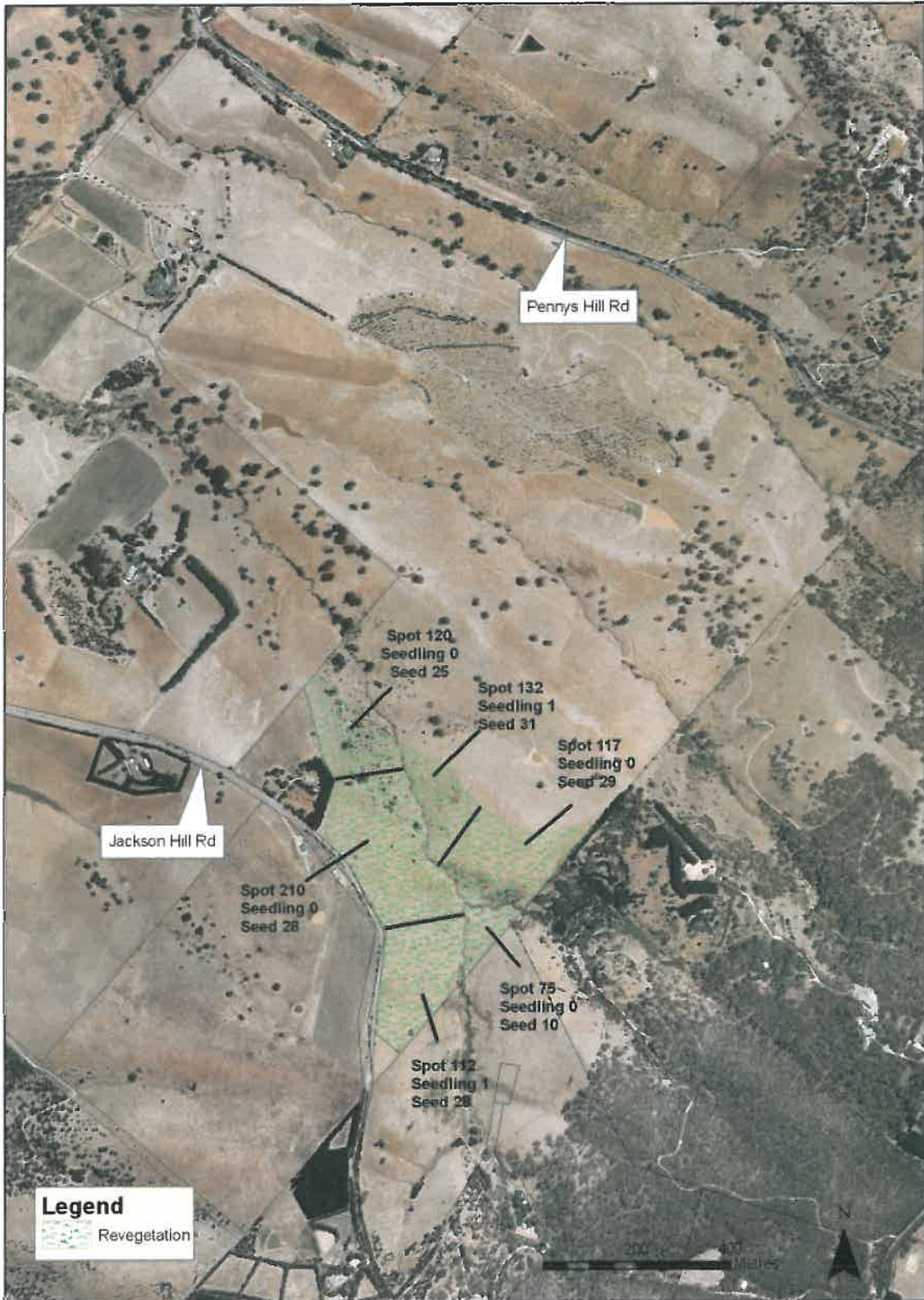


Figure 6 Success rate of revegetation on the Beal property surveyed in Nov. 2008

Table 7 Species, number of individuals and weight of seed planted on Beals' property June 2008

Species	Common Name	seedlings	seed (gms)
<i>Acacia acinacea</i>	Wreath Wattle	0	510
<i>A. melanoxylon</i>		150	120
<i>A. myrtifolia</i>		0	400
<i>A. paradoxa</i>	Kangaroo Thorn	0	90
<i>A. pycnantha</i>	Golden Wattle	0	1080
<i>A. retinodes</i>		150	270
<i>A. verniciflua</i>	Varnish Wattle	0	300
<i>Banksia marginata</i>		50	0
<i>Bursaria spinosa</i>	SA Christmas Bush	160	0
<i>Allocasuarina verticillata</i>	Drooping Sheoak	500	550
<i>Dodonaea viscosa</i>	Sticky Hop-bush	0	440
<i>Eucalyptus baxteri</i>		150	0
<i>Eucalyptus camaldulensis</i>	River Red Gum	120	0
<i>E. cosmophylla</i>	Cup Gum	0	680
<i>E. fasciculosa</i>	Pink Gum	320	460
<i>E. leucoxylon</i>	SA Blue Gum	605	190
<i>E. obliqua</i>		150	0
<i>E. microcarpa</i>	Grey Box	200	0
<i>E. viminalis</i> ssp. <i>cygnetensis</i>	Rough Barked Manna Gum	605	100
<i>Hakea rostrata/carinata</i>		320	0
<i>Hardenbergia violacea</i>	Native Lilac	150	150
<i>Leptospermum continentale</i>		150	220
<i>L. lanigerum</i>		150	0
<i>Melaleuca decussata</i>		150	75
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	320	100
<i>Pultenea daphnoides</i>		150	0
<i>Xanthorrhoea semiplana</i>	Yacca	150	200
	<b>Total</b>	<b>4700</b>	<b>5935</b>

### 3.5.3 Corkran

Leon and Angie installed two water points and 1800m of fencing along a water course on their property. They will revegetate this area at a later date. They have conducted revegetation on the property previously as well as planting a small agro-forestry plantation.

### 3.5.4 Dyer/van Camp

Anthony and Lissa have recently purchased this property and are keen to carry out extensive environmental works on the property. The property previously grazed cattle present which had unrestricted access to the creek lines. Anthony and Lissa will fence off and revegetate the creek lines and areas suffering from erosion. 1300m of fencing was constructed and pre-planting weed control conducted in preparation for revegetation to be done in July 08. Figure 7 shows the areas fenced for revegetation. A total of 21ha of revegetation was conducted across the property. Table 8 shows the species, number of individuals and weight of seed planted on the property.

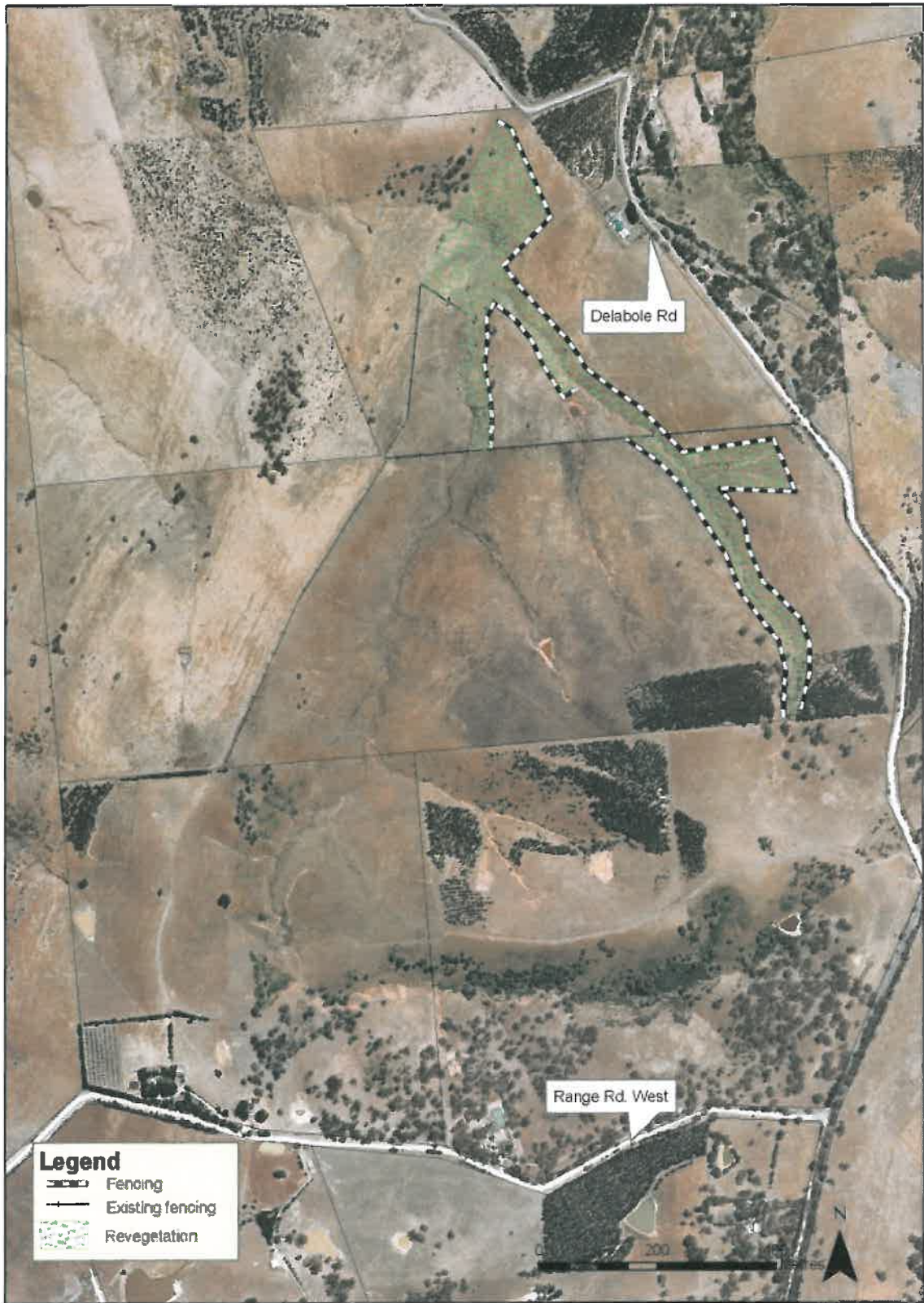


Figure7 Areas fenced and revegetated on the Dyer property.

Table 8 Species, number of individuals and weight of seed planted on Dyer/van Camps property

Species	Common Name	seedlings	seed (gms)
<i>Acacia acinacea</i>	Wreath Wattle		200
<i>A. melanoxylon</i>		200	150
<i>A. myrtifolia</i>		150	100
<i>A. paradoxa</i>	Kangaroo Thorn		50
<i>A. pycnantha</i>	Golden Wattle		250
<i>A. retinodes</i>		150	200
<i>A. rupicola</i>	Rock Wattle		30
<i>A. verniciflua</i>	Varnish Wattle		75
<i>Banksia marginata</i>		50	
<i>Bursaria spinosa</i>	SA Christmas Bush	150	
<i>Allocasuarina verticillata</i>	Drooping Sheoak	400	250
<i>Callistemon sieberi</i>			
<i>Dodonaea viscosa</i>	Sticky Hop-bush		250
<i>Eucalyptus camaldulensis</i>	River Red Gum	100	
<i>E. fasciculosa</i>	Pink Gum	300	300
<i>E. leucoxylon</i>	SA Blue Gum	400	100
<i>E. microcarpa</i>	Grey Box	500	
<i>E. odorata</i>		100	
<i>E. porosa</i>		200	
<i>E. viminalis ssp. cygnetensis</i>	Rough Barked Manna Gum	150	50
<i>Goodenia pinnatifida</i>		50	
<i>Hakea rostrata/carinata</i>		150	
<i>Hardenbergia violacea</i>	Native Lilac	100	100
<i>Leptospermum continentale</i>		400	100
<i>L. lanigerum</i>		100	
<i>L. myrsinoides</i>		100	50
<i>Melaleuca decussata</i>		100	30
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	150	40
<i>Pultenea daphnoides</i>		100	
<i>Xanthorrhoea semiplana</i>	Yacca	100	200
	<b>Total</b>	<b>4200</b>	<b>2525</b>

### 3.5.5 Fopp

Olive control was conducted on Fopp's primarily to buffer the heritage listed area of their property.

### 3.5.6 Foster

Six hundred and seventy seedlings were planted on Foster's in August 2007. Pre-planting weed control was not conducted, as where the plants were to be planted, very little growth of exotic grasses was evident. This property has a reasonably large resident kangaroo population. Previous revegetation works have suffered large losses due to grazing by kangaroos. A survey some time after the seedlings were planted showed that the kangaroos again had removed many of the seedlings.



### 3.5.7 Gerhardy

Karen Gerhardy is involved with the Willunga Primary School running a program called EnviroKids and it was with the involvement of the EnviroKids that WHLG conducted revegetation on her property. Approximately 500 trees that had been propagated at the school were planted in and around the dam in August 2007 by students from the school. In September of the same year approximately 2800 trees (Table 9) were planted over 2.7ha on the property (Figure 8).

Some losses were experienced on the property with the mostly likely cause being local ducks that were resident at the dam for a period of time. Some sections of the revegetation suffered substantial losses due to the complete removal of the trees while other sections suffered very little in the way of removal. There was evidence the ducks were foraging in the thatch that was created after the spraying in search of insects and in the process they would remove the newly planted seedlings. In May 2008, 600 seedlings were planted on the property to replace the ones that had been lost from the previous year (Table 10). The new seedlings were planted in the same spots that had been sprayed the previous year, but no spraying was carried out for these. This was done as a trial to determine whether the trees could be “hidden” in amongst the grasses that were present on the property. From initial surveys conducted on the new plantings this did not appear to be successful. The aggressive growth of the exotic grasses quickly out-competed the newly planted seedlings.

Table 9 Species and number of individuals planted on Gerhardy Property Sept. 2007

Species	Common name	seedlings
<i>Acacia melanoxylon</i>		80
<i>A retinoides</i>		80
<i>Allocasuarina verticillata</i>	Drooping Sheoak	200
<i>Bursaria spinosa</i>	SA Christmas Bush	100
<i>Eucalyptus camaldulensis</i>	River Red Gum	200
<i>E. cosmophylla</i>	Cup Gum	100
<i>E. fasculosa</i>	Pink Gum	100
<i>E. leucoxyton</i>	S.A. Blue Gum	800
<i>E. microcarpa</i>	Grey Box	100
<i>E. viminalis ssp. cygnetensis</i>	Rough bark Manna Gum	230
<i>Hakea carinata</i>		50
<i>Leptospermum continentale</i>		100
<i>L. lanigerum</i>		100
<i>Melaleuca decussata</i>		270
<i>Olearia ramulosa</i>	Twiggy Daisy Bush	180
<i>Pultenea daphnoides</i>		100
<i>Xanthorrhoea. semiplana</i>	Yacca	40
	<b>Total</b>	<b>2830</b>

Table 10 Extra seedlings planted to replace seedlings lost after initial planting

Species	Common name	seedlings
<i>Allocasuarina verticillata</i>	Drooping Sheoak	100
<i>Eucalyptus fasciculosa</i>	Pink Gum	100
<i>E. microcarpa</i>	Grey Box	100
<i>Hardenbergia violacea</i>		100
<i>Leptospermum continentale</i>		100
<i>Melaleuca decussata</i>		100
	<b>Total</b>	<b>600</b>



Figure 8 Revegetated area (highlighted in green) of Gerhardy property

### 3.5.8 Giles

Approximately 3ha was revegetated in one of the fenced creek lines in September 2007. This area had been previously revegetated with limited success. The area has very shallow soils and this, combined with poor rainfall patterns over the past few years, has resulted in lower survival rates than would have been hoped. Figure 9 shows the vegetated creek line on the property while Table 11 shows the species and number of individuals planted on the property.

Table 11 Species and number of individuals planted at Giles September 2007

Species	Common name	seedlings
<i>Acacia melanoxylon</i>		80
<i>Allocasuarina verticillata</i>	Drooping Sheoak	300
<i>Eucalyptus camaldulensis</i>	River Red Gum	200
<i>E. cosmophylla</i>	Cup Gum	100
<i>E. leucoxyton</i>	S.A Blue Gum	460
<i>E. viminalis</i>	Rough Barked Manna Gum	540
<i>Hakea carinata</i>		100
<i>Melaleuca decussate</i>		180
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	170
<i>Pultenea daphnoides</i>		100
	<b>Total</b>	<b>2230</b>

A survey conducted in October 2007 of the survival rates of the newly planted seedlings showed the plantings were not very successful. Rainfall was very poor immediately after the seedlings were planted resulting in the plants suffering extreme water stress. The lack of good rains and the shallow top soil in the revegetated area both contributed to the poor results of this revegetation.



Figure 9 Revegetated creek line on Giles

### **3.5.9 Gilmour**

This property has a good section of remnant stringy-bark woodland that has some patches of Montpellier broom. Major work was conducted on the broom in March 2007. The work conducted in the financial year 2007-08 was predominately follow up work of newly germinated seed and plants missed from the previous work.

### **3.5.10 Horsfall**

A section of this property has approximately 5ha of *Eucalyptus porosa* woodland which is listed as threatened. The woodland is heavily infested with Boneseed and Olive. \$3,000 was spent this financial year hand pulling the Boneseed and removing the smaller Olive trees with a mattock. This property will be a useful trial site to see the regeneration processes of smaller ground cover plants within remnant vegetation after substantial woody weed removal.

### **3.5.11 Johns**

Blackberry control was undertaken in the creek lines of the property. This property has had a substantial amount of revegetation work conducted over a number of years along with two plots of agro-forestry.

### **3.5.12 Lewis-Christie**

Approximately 10ha of revegetation was carried out on the Lewis-Christie property in June 2008. All revegetation carried out on the property was seedlings with no direct seeding being done. Table 12 lists the species and numbers of seedlings planted while Figure 10 shows the area that was revegetated. Creation Care spot sprayed the property in the June and planting was conducted in the July.

Table 12 Species and number of individuals planted at Lewis-Christie

Species	Common Name	seedlings
<i>Acacia acinacea</i>	Wreath Wattle	70
<i>A. melanoxylon</i>		40
<i>A. myrtifolia</i>		150
<i>Banksia marginata</i>		30
<i>Bursaria spinosa</i>	SA Christmas Bush	200
<i>Allocasuarina verticillata</i>	Drooping Sheoak	250
<i>Callistemon sieberi</i>		40
<i>Danthonia sp</i>		200
<i>Eucalyptus camaldulensis</i>	River Red Gum	15
<i>E. cosmophylla</i>	Cup Gum	50
<i>E. fasciculosa</i>	Pink Gum	250
<i>E. leucoxydon</i>	SA Blue Gum	250
<i>E. microcarpa</i>	Grey Box	200
<i>Goodenia pinnatifida</i>		100
<i>Hakea rostrata/carinata</i>		200
<i>H. rugosa</i>		50
<i>Hardenbergia violacea</i>	Native Lilac	100
<i>Kennedia prostrata</i>		200
<i>Leptospermum continentale</i>		300
<i>L. lanigerum</i>		50
<i>L. myrsinoides</i>		100
<i>Melaleuca decussata</i>		200
<i>Microlaena stipoides</i>	Rice grass	500
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	300
<i>Pultenea daphnoides</i>		100
<i>Xanthorrhoea semiplana</i>	Yacca	200
	<b>Total</b>	<b>4145</b>



Figure 10 Area of Lewis-Christie property revegetated June 2008

### 3.5.13 Screenings Quarry

Twelve hectares of revegetation was conducted at Screenings Quarry between late August and late September 2007. Plantings were held up due to the lack of rainfall. Two sections were planted at the quarry with 11ha planted on the southern side of the entrance to the quarry and 1ha planted on the opposite side of the weighbridge. Table 13 shows the number of individuals of each species planted along with the amount of seed used for the direct seeding.

The direct seeding was carried out initially due to the lack of moisture in the soil with planting of the seedlings done after some rainfall had occurred. This has proved to be a difficult site to revegetate, this being the third time the site has been done. Some kangaroos are present at the site and with a westerly aspect the site receives direct sunlight for a long period of time during the spring and summer months. If the rainfall is poor throughout these months the seedlings and the newly germinated direct seed dry out very quickly.

Table 13 Species, number of individuals and weight of seed planted at Screenings

Species	Common Name	seedlings	seed (gms)
<i>Acacia. acinacea</i>	Wreath Wattle		100
<i>A.melanoxylon</i>			50
<i>A. myrtifolia</i>			150
<i>A. paradoxa</i>	Kangaroo Thorn		100
<i>A. pycnantha</i>	Golden Wattle		1075
<i>A. retinodes</i>		200	50
<i>A. verniciflua</i>	Varnish Wattle		380
<i>Bursaria spinosa</i>	SA Christmas Bush	200	
<i>Allocasaurina striata</i>			25
<i>A. verticillata</i>	Drooping Sheoak	500	100
<i>Dodenaea. viscosa</i>	Sticky Hop-bush	100	250
<i>Eucalyptus. cosmophylla</i>	Cup Gum		90
<i>E. fasciculosa</i>	Pink Gum	500	
<i>E. leucoxyton</i>	SA Blue Gum	100	30
<i>E.microcarpa</i>	Grey Box	500	100
<i>Leptospermum. continentale</i>			70
<i>L. lanigerum</i>		300	
<i>L. mysinoides</i>		100	
<i>Melaleuca. decussata</i>		200	80
<i>Olearia. ramulosa</i>		400	140
	<b>Total</b>	<b>3100</b>	<b>2790</b>

### 3.5.14 Thomas

Approximately 6ha was revegetated in September and October of 2007. This property has had extensive revegetation carried out and this 6ha is an extension of some of the previous work. Soil moisture was quite low when the plantings were started and planting had to be postponed for a period until a rainfall event had occurred. Table 14 shows the number of individuals of each species planted along with the weight of seed used for the direct seeding. Another 1000 seedlings were planted in June 2008 as the success rate of the plantings in September and October 2007 was quite low due to the lack of rainfall.

Table 14 Species, number of individuals and weight of seed planted at Thomas during September and October 2007. Extra seedlings planted in June 2008

Species	Common name	seedlings	seed (gms)	extra seedlings
<i>Acacia. acinacea</i>	Wreath Wattle		50	
<i>A. melanoxylon</i>				30
<i>A. myrtifolia</i>			60	30
<i>A. paradoxa</i>	Kangaroo Thorn		50	
<i>A. pycnantha</i>	Golden Wattle		250	
<i>A. retinoides</i>				40
<i>A. verniciflua</i>	Varnish Wattle		50	
<i>Bursaria spinosa</i>	SA Christmas Bush	100		30
<i>Allocasaurina striata</i>			50	
<i>A. verticillata</i>	Drooping Sheoak	300	150	150
<i>Dodonaea. viscosa</i>	Sticky Hop-bush		50	
<i>Eucalyptus camaldulensis</i>	River Red Gum	100		10
<i>E. cosmophylla</i>	Cup Gum		50	
<i>E. fasciculosa</i>	Pink Gum	300	25	150
<i>E. leucoxyton</i>	SA Blue Gum	200	25	150
<i>E. microcarpa</i>	Grey Box			100
<i>E. viminalis ssp cygnetensis</i>	Rough Bark Manna Gum	100	25	
<i>Hakea carinata</i>		100		50
<i>Leptospermum continentale</i>			50	20
<i>L. lanigerum</i>		100		20
<i>L. myrsiniodes</i>				20
<i>Melaleuca decussata</i>			25	20
<i>Olearia ramulosa</i>		200	50	100
<i>Pultenaea daphnoides</i>				30
<i>Xanthorrhoea. semiplana</i>	Yacca	100		
	<b>Total</b>	<b>1600</b>	<b>960</b>	<b>950</b>



### 3.5.15 Tregloan

Post-planting weed control was conducted on previous revegetation that had been conducted on this sheep grazing property. A number of creek lines had been fenced off and revegetated, restricting sheep access to the creek lines. This resulted in vigorous growth of weeds around the trees and the manager of the property wished to allow sheep access to the creek lines to control the weed growth. As the trees were not established enough to withstand long term sheep grazing it was decided to cover the trees with hessian bags and allow the sheep access for a short period of time. This was a very successful method of controlling the weed growth and protecting the trees. Once the trees were covered the sheep were allowed access for approximately 24-48 hours. This gave the sheep enough time to graze the weeds to a satisfactory height without grazing the trees. Reimbursement was paid in this financial year for previous fencing on the property.

### 3.6 Surveys

Some of the properties revegetated were surveyed to ascertain the success of the revegetation. Table 15 shows the properties surveyed and the data collected from the survey. Not all revegetated properties were surveyed due to time and budgetary constraints but a general overview of the success of the revegetation for the year was the intention of the surveys. The surveys were conducted in the spring of the same year as the revegetation was undertaken and again in the autumn of the following year to determine the survival rates through the first summer. When collecting survey data it is assumed there is 850 revegetated spots per hectare and the ratio of direct seeding to seedling is 3:1.

Table 15 Survival rates of surveyed revegetation planted winter/spring 2008

When surveyed	Property	Spot	Seed	Seedling	% overall survival
Nov-08	Beal	766	151	2	19.97
	Dyer	1623	277	666	58.10
Mar-09	Beal	1088	82	13	8.73
	Dyer	1555	147	630	49.97
	Johns	911	149	48	21.62
	Hersey	2027	753	202	47.11

~ 33%

(aw 53% p43)

### 3.7 Summary

There was a large variation in survival rates across the surveyed properties. There were probably a number of factors that contributed to the large variation. The poor survival rates of the seedlings at Beal's were largely due to removal of the plants by a large resident kangaroo population while the well below average rainfall would have a negative impact on the germination and survival of the direct seeding. Dyer's recorded survival rates were much better over both survey periods. This property does not show evidence of a resident kangaroo population, consequently a higher survival rate of seedlings was recorded. The survival rates for the direct seeding recorded at Dyer's were similar to the survival rates of the direct seeding recorded at Beal's, (26% and 10%, and 23% and 12.5% respectively). The higher recording of survival rates for the seedlings at Dyer's results in a much higher overall percentage survival rate for Dyer's in comparison to Beal's.

It is difficult to find a probable cause for the difference in recorded survival rates between Hersey's and Johns'. It may have been a timing issue as Hersey's was planted earlier in the season than Johns. The revegetation at Hersey's is also not as exposed as the revegetation at Johns and this may have benefitted the revegetation at Hersey's by not being subjected to water stress at the same level as the revegetation at Johns'.

#### **4.0 July 2008-June 2009**

2008-09 once again proved a successful year for the WHLG in obtaining funding. The group secured \$110,000 in funding from the NRM along with \$40,000 from the Federal Government through the Community Coast Care (CCC) grants. The funding from NRM was broken down to \$5,000 to support reconstruction priority areas, \$27,000 to manage remnant ecosystems and \$54,000 to rehabilitate riparian zones. \$24,000 was allocated for project management. The Community Coast Care Grant is to be used to fence off and revegetate two creek lines on the Giles property.

*Property Plan*  
A new requirement of NRM funding, is that a property plan needs to be written for every property that has money spent on it. These plans are quite detailed, documenting the type of work to be conducted over the next three years and the responsibilities of both the landowner and the NRM board. They set out the time frames for work to be conducted and how this work will be undertaken.

#### **4.1 NRM Funding 2008-09**

A total of eight properties had on-ground works conducted on them for the 08-09 financial year. Not all monies were expended for the financial year due to some fencing and revegetation work not being completed on the properties of Badger and John Thomas. Fencing works was completed later in 2010. Some woody weed control on Horsfall's property was not completed in the financial year and this was finalized in early 2010.

The beginning of the planting season for 2009 looked promising with good rainfalls recorded at Myponga from March onwards. Excluding the months of January and February, where only 0.4mm and 0.2mm was recorded respectively, above average rainfall was recorded for the remainder of the year.

Table 16 shows a summary of works conducted and the total cost spent on each property. Not all monies were expended from the budget as previously stated, some fencing works had not been completed on Badger's and Thomas' and some weed control had not been conducted on Horsfall's. This money was carried over into the 2009-10 financial year.

Table 16 Summary of properties, work conducted and NRM money spent in the financial year 2008-2009

Property	Work done	Area (ha)	Weed control area/spots per ha	Pre-planting weed control (@\$350/ha)	Seedlings planted	Woody weed control	other	Cost other	Cost seedlings	Planting cost	Direct seeding spots	Actual spent
Badgers	Fencing/reveg	1			200		850m (@\$3.50m (\$2975))	\$2975	\$120.00	\$120.00		\$3,215.00
Beal	Fencing/reveg	15	15ha/800	\$5,250.00	5035		1100m @ \$3.50m (\$3850)	\$3850	\$3,021.00	\$9,002.40	12000	\$21,123.40
Dyer/van Camp	Fencing/reveg Olive/Bone seed	27	27ha/800	\$2,450.00	7250		1100m @ \$3.50m (\$3850)	\$3850	\$2,190.00	\$10,205.00	21600	\$18,695.00
Horsfall Lewis-Christie	Reveg	5	5ha/400		1200	\$1,500.00			\$720.00	\$1,070.00		\$1,500.00
Just	Fencing/reveg	2					1750m @ \$3.50m (\$6104.55)	\$6104				\$6,104.55
Johns	reveg	1	1ha/800	\$350.00						\$380.00	800	\$730.00
Thomas	reveg	10	10ha/800	\$3,500.00	2100				\$1,260.00	\$4,380.60	8000	\$9,140.00
	<b>Totals</b>	<b>59</b>		<b>\$11,550.00</b>	<b>15,785</b>	<b>\$1,500.00</b>	<b>4,800m</b>	<b>\$16,779</b>	<b>\$7,311.00</b>	<b>\$25,158.00</b>	<b>42,400</b>	<b>\$62,298.55</b>

## **4.2 Woody weed control**

Horsfall's was the only property to have woody weed control conducted in the financial year of 2008-09. The focus of the weed control this financial year was on mature Olive trees in the area where Boneseed had been removed the previous year. Terrestrial Ecosystem Services were engaged to drill and fill the Olive trees in early 2009 while Myall Productions were engaged to drill and fill the trees in early 2010.

### **Revegetation/fencing**

A total of seven properties were revegetated for the 2008-09 financial year for a total of 59ha at a cost of \$45,519. These costs include pre-planting weed control, seedlings and planting. Dyer/vanCamp's property had the largest amount of revegetation work with 27ha being planted, Beal having 15ha and Thomas 10ha. 5ha was planted at Lewis-Christie's while 1ha was planted at both Badger's and Johns'. A total of 4800m fencing were also installed across four properties with Justs fencing off nearly 900m of creek line on their property on the western side of South Road. at Sellicks Beach while Beal and Dyer/vanCamp both installed 1100m of fencing.

## **4.3 Properties**

### **4.3.1 Badger**

200 seedlings of *E. viminalis* spp *cygnetensis* were planted adjacent to the heritage area in an attempt to extend the vegetated area of the heritage agreement. A creek line that runs through the centre of the property is to be fenced along with a section of the head waters of Pedlar creek, which is located on the northern section of the property. Revegetation is planned for the centre creek in the first half of 2010 while the revegetation of the Pedlar Creek headwaters will occur at a later date. Figure 11 shows the areas to be fenced, with revegetation occurring within the fenced areas. The two sections of fencing on the northern side of the property were budgeted for in 2007-08, but due to problems in getting contractors to cut tracks so the fencing could be installed, this work was not finished by the end of the financial year, so the monies were carried over to the financial year of 2009-10.



Figure 11 Areas of Mt Wilson that are to be fenced (Badger)

### 4.3.2 Beal

Keith Jenkins had taken over the management of the Beal property and fencing off creek lines and other sections of the property was one of the first priorities. Figure 12 shows the area which was fenced and revegetated. Figure 13 shows some of the area sprayed before planting commenced. Creation Care conducted pre-planting weed control on the property throughout June and July 2008 while Korra Landscapes carried out the planting and direct seeding in late July 2008. Table 17 shows the species and numbers of seedlings planted along with the amount of direct seeding carried out.

Table 17 Species, number of individuals and weight of seed planted at Beal's

Species	Common Name	seedlings	seed (gms)
<i>Acacia acinacea</i>	Wreath Wattle		200
<i>A. melanoxylon</i>		300	100
<i>A. myrtifolia</i>		300	
<i>A. paradoxa</i>	Kangaroo Thorn		50
<i>A. pycnantha</i>	Golden Wattle		500
<i>A. rupicola</i>	Rock Wattle		150
<i>A. verniciflua</i>	Varnish Wattle		150
<i>A. verticillata</i>	Prickly Moses		100
<i>Billardiera cymosa</i>		40	
<i>Bursaria spinosa</i>	SA Christmas Bush	100	80
<i>Allocasuarina verticillata</i>	Drooping Sheoak	525	40
<i>Calytrix tetragona</i>			30
<i>Dianella revoluta</i>		100	
<i>Dillwynia hispida</i>			7
<i>Dodonaea viscosa</i>	Sticky Hop-bush		200
<i>Enchylaena tomentosa</i>	Ruby saltbush	100	
<i>Eucalyptus camaldulensis</i>	River Red Gum	50	25
<i>E. cosmophylla</i>	Cup Gum		100
<i>E. fasciculosa</i>	Pink Gum	700	200
<i>E. leucoxylon</i>	SA Blue Gum	400	200
<i>E. microcarpa</i>	Grey Box	400	190
<i>E. viminalis</i> ssp. <i>cygnetensis</i>	Rough Barked Manna Gum	500	200
<i>Hardenbergia violacea</i>	Native Lilac	150	
<i>Juncus pallidus</i>	Pale Rush	600	
<i>J. pauciflorus</i>	Loose flower rush		7
<i>Kennedia prostrata</i>		50	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	100	8
<i>Pultenea daphnoides</i>		20	
<i>Xanthorrhoea semiplana</i>	Yacca	600	
	<b>Total</b>	<b>5035</b>	<b>2337</b>



Figure 12 Area fenced and revegetated on Beal's property





Figure 13 Shows part of the section sprayed before planting commenced.

### 4.3.3 Dyer/van Camp

Anthony and Lissa continued to fence off and revegetate creek lines and gullies across their property. This financial years work involved fencing off and revegetating a creek line on the western most side of the property (Figure 14). This area captured some remnant pink gums and provides connectivity to a stand of remnant pink gums as well as some previously planted revegetation that is approx 7 years old. Table 18 shows the species, number of individuals and the amount of direct seeding planted on the Dyer/van Camp property.

Table 18 Species, number of individuals and weight of seed planted at Dyer/van Camp

Species	Common Name	seedlings	seed (gms)
<i>Acacia acinacea</i>	Wreath Wattle	100	
<i>A. melanoxyton</i>		20	50
<i>A. myrtifolia</i>		50	
<i>A. paradoxa</i>	Kangaroo Thorn		35
<i>A. pycnantha</i>	Golden Wattle		400
<i>A. retinodes</i>			50
<i>A. rupicola</i>	Rock Wattle	50	50
<i>A. verticillata</i>	Prickly Moses		50
<i>Bursaria spinosa</i>	SA Christmas Bush	40	100
<i>Allocasuarina striata</i>	Stalked oak-bush	40	
<i>A. verticillata</i>	Drooping Sheoak	650	150
<i>Calytrix tetragona</i>			10
<i>Dianella revoluta</i>		195	
<i>Dodonaea viscosa</i>	Sticky Hop-bush		100
<i>Enchylaena tomentosa</i>	Ruby saltbush	50	
<i>Eucalyptus camaldulensis</i>	River Red Gum	29	50
<i>E. fasciculosa</i>	Pink Gum	230	150
<i>E. leucoxyton</i>	SA Blue Gum	250	100
<i>E. microcarpa</i>	Grey Box	430	300
<i>E. odorata</i>		100	300
<i>E. porosa</i>		40	100
<i>Eutaxia microphylla v microphylla</i>	common eutaxia	70	5
<i>Hakea rugosa</i>		15	
<i>Hardenbergia violacea</i>	Native Lilac	140	
<i>Kennedia prostrata</i>		60	
<i>Leptospermum continentale</i>		200	
<i>Lomandra sp</i>			10
<i>Melaleuca decussata</i>		300	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	150	25
<i>Xanthorrhoea semiplana</i>	Yacca	440	
	<b>TOTAL</b>	<b>3649</b>	<b>2035</b>



Figure 14 Dyer/van Camp property showing creek line fenced off where revegetation took place.

### 4.3.4 Just

Three small creek lines were fenced off and revegetated on a portion of the Just's property. This is a small part of the revegetation and fencing works that have occurred on Just's property over a number of years. They also own large parcels of land in the Myponga region which is part of the patch Jackie Best from the AMLR NRM Board is responsible for. As a consequence of the Just's holdings covering an area in which two project officers were responsible for, and with the vast proportion of the land being in Jackie's patch she assumed control of dealings regarding the Just's properties. Table 19 shows the species and numbers of individuals planted on the property while Figure 15 shows the location of the fencing with the revegetation occurring within the fenced area.

Table 19 Species and number of individuals planted at Just's

Species	Common name	seedlings
<i>Acacia acinacea</i>	Wreath Wattle	50
<i>A. melanoxylon</i>		20
<i>A. myrtifolia</i>		100
<i>Bursaria spinosa</i>	SA Christmas Bush	50
<i>Eucalyptus camaldulensis</i>	River Red Gum	10
<i>E. microcarpa</i>	Grey Box	10
<i>E. porosa</i>		10
<i>Kennedia prostrata</i>		60
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	50
<i>Xanthorrhoea semiplana</i>	Yacca	100
	<b>Total</b>	<b>460</b>



Figure 15 Creek lines fenced off and revegetated

### 4.3.5 Lewis –Christie

The previous year's plantings on the Lewis-Christie property were very unsatisfactory. A combination of kangaroo damage and water stress contributed to the poor results. The kangaroo grazing was probably the major cause of the losses as many of the plants had been completely removed from the ground. As a result of this, and a fire that passed through a neighbouring property in the summer of 2008, only a small portion of the original revegetation was re-done. Approximately 1200 plants were planted with no direct seeding being carried out. The species planted this time were a similar mixture to previous years, but exact numbers were not determined as not all plants that were ordered were planted due to the lack of sprayed areas where plants could be located. Figure 16 shows the area where the replacement revegetation was conducted.



Figure 16 Area revegetated on the Lewis-Christie property.

### 4.3.6 Thomas

The Thomas property has had large amounts of revegetation conducted on it over a number of years. The area revegetated this financial year was on the north-western side of the property in and around the western most creekline that runs through the property. Some fencing was budgeted for but this has been put on hold until early 2010 when time is more convenient and contractors are more readily available. Table 20 shows the species, the number of seedlings and the weight of seed used for the revegetation while Figure 17 shows the location of the revegetation. Creation Care conducted the pre-planting weed control in the June, while Korra Landscapes carried out the planting and direct seeding in late June early July.

Table 20 Species, number of individuals and weight of seed planted on Thomas' property

Species	Common Name	seedlings	seed (gms)
<i>Acacia acinacea</i>	Wreath Wattle	100	150
<i>A. melanoxylon</i>			100
<i>A. pycnantha</i>	Golden Wattle		300
<i>A. retinodes</i>			50
<i>A. rupicola</i>	Rock Wattle		100
<i>Bursaria spinosa</i>	SA Christmas Bush		50
<i>Allocasuarina. verticillata</i>	Drooping Sheoak	200	40
<i>Calytrix tetragona</i>			20
<i>Enchylaena tomentosa</i>	Ruby saltbush	50	
<i>Eucalyptus fasciculosa</i>	Pink Gum	200	150
<i>E. leucoxylon</i>	SA Blue Gum	300	100
<i>E. microcarpa</i>	Grey Box	300	100
<i>E. odorata</i>		300	50
<i>E. porosa</i>		100	50
<i>Hardenbergia violacea</i>	Native Lilac	50	
<i>Leptospermum continentale</i>		100	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	50	
<i>Xanthorrhoea semiplana</i>	Yacca	300	
	<b>Total</b>	<b>2050</b>	<b>1260</b>



Figure 17 Location of revegetation on Thomas property

#### 4.4 Surveys

Table 21 shows the properties surveyed and the data collected from the survey. Once again not all revegetated properties were able to be surveyed but a general overview of the success of the plantings can be gauged from the results obtained from the survey.

Table 21 Success rates of surveyed revegetation planted in winter/spring 2009

When	Property	Spot	Seed	Seedling	% overall success
Oct-09	Beal	662	184	182	55.29
	Dyer	270	22	143	61.11
	Screenings	229	0	151	65.94
May-10	Beal	849	75	244	37.57
	Dyer	1704	29	672	41.14
	Thomas	747	43	372	55.56

55%  
(on 33% p28)

#### 4.5 Summary

This season's seedlings were more successful than the previous year's plantings, though the direct seeding was not very successful. The success of the seedlings was probably due to two factors: 1) rainfall, this planting season was much better than the previous year 2) onion mesh guards were used to deter kangaroos. Some seedlings were lost to the kangaroos but not to the extent as the previous year. It is unclear whether the guards themselves deterred the kangaroos or whether the increased rainfall provided more feed for the kangaroos. It is also unclear why the direct seeding was not successful this year. The most plausible reason for the direct seeding failure was the extremely hot weather in November. The long term mean maximum temperature for November is 25.1° C, (Bureau of Meteorology, BOM) the mean maximum for November 2009 was 30.8° C, the highest maximum mean on record (BOM). Ten days recorded temperatures over 35° C in November with eight of those ten days consecutive. A record temperature of 43° C was also recorded for November (BOM).

hot  
Nov  
poor  
direct  
seed  
survived

Beal's revegetation was acceptable in the spring survey though the success rate of the direct seeding dropped off in the autumn survey. This may have been due to the difficulty in finding the direct seeding spots as many of the annual grasses had germinated and covered the spots where the direct seeding had taken place.

Dyer's revegetation was successful overall but this was almost entirely due to the seedlings with very little direct seeding germinating. This is highlighted even more so in the autumn survey.

Thomas's revegetation was not surveyed in the spring but the autumn survey showed it was acceptable but once again this was due to the success of the seedlings with very little direct seeding germinating.



## **5.0 July 2009-June 2010**

The WHLG received a total of \$110,840 (\$86,000 for OGW and \$24,840 for project management) of funding from the AMLR NRM Board for the financial year of 2009-10. This amount did not include \$20,597 in unspent funds from the 2008-09 financial year carried over into this financial year. The unspent funds were for fencing and revegetation for Mount Wilson (Badger) and the Thomas property in 2008-09 but problems obtaining fencing contractors resulted in the fencing not being completed. Eight properties had on-ground works conducted, seven NRM funded properties and one property funded through Community Coast Care (CCC). NRM funded properties were Badger, Beal, Dyer, Lewis-Christie, Tapfield, Thomas and Horsfall. The CCC funded property was Giles.

The on-ground works consisted of fencing, revegetation, woody weed control and post-planting weed control. Onion mesh guarding was used across all properties for the revegetation due to the losses suffered from kangaroos. This proved to be quite successful, even though some losses were experienced, they were minimal.

### **5.1 NRM Funding 2009-10**

A total of \$88,505 was expended on on-ground works during the planting season of 2010. A large portion of this money was not spent until after the end of the financial year but is included in the 2009-10 financial year for this report. The unspent funds from 2008-09 were expended on fencing and revegetation on both the Badger and Thomas property. The remaining \$18,092 left over from the 2009-10 budget will be carried over into the 2010-11 financial year. Four of the properties the WHLG worked on had fencing and revegetation conducted on their properties, one property had fencing only, two had woody weed control and one property had post-planting weed control.

The planting season for 2010 shows good promise though good rainfall events didn't occur across the ranges until August. The long term mean for August at Myponga is 97mm while 129.4mm was recorded for August 2010 (BOM). Reasonable rains fell in May and June, (78mm and 103mm respectively) although they were below the long term average, (93mm and 112mm respectively). July was well below the long term average of 114.2mm with only 72mm being recorded at Myponga (BOM). The lateness of the rains did delay the timing of the planting but if good spring rains occur the success of the revegetation should be good. Table 22 shows a summary of the properties and works conducted and the monies spent on each property.

Table 22 Summary of properties, work conducted and money spent for financial year 2009-2010

Property	Work conducted	fencing (m)	fencing (cost)	other	cost other	Area (ha) for reveg	woody weed control	Pre-planting weed control	Seedlings no.	Seedlings cost	Direct seed (spots) @600/ha	Planting costs	Total spent
Badger	Fencing/reveg	2850	\$9,975.00	water troughs (4)	\$1,600.00	6ha		\$2,000.00	4398	\$2,638.80		\$3,728.10	\$19,941.90
	Fencing	4100	\$14,350.00										\$14,350.00
Dyer/Van Camp	Fencing/reveg	1600	\$5,600.00	post planting weed control	\$4,240.00	8ha		\$2,388.00	5061	\$3,024.00	3000	\$5,859.90	\$21,111.90
	Post planting w/c			post planting weed control	\$720.00								\$720.00
Tapfield	Woody weed control						\$17,995.00						\$17,995.00
Thomas	Fencing/reveg	930	\$3,255.00			10ha		\$1,975.00	2587	\$3,629.34	5000	\$4,723.30	\$13,582.64
Horsfall	Woody weed control						\$6,000.00						\$6,000.00
	<b>Totals</b>	<b>9480</b>	<b>\$33,180.00</b>		<b>\$6,560.00</b>	<b>24ha</b>	<b>\$23,995.00</b>	<b>\$6,363.00</b>	<b>12046</b>	<b>\$9,292.14</b>	<b>8000</b>	<b>\$14,311.30</b>	<b>\$93,701.44</b>
<b>Community Coastcare</b>													
Giles	Fencing/reveg	1800	\$5,727.28			10ha		\$2,382.00	5900	\$3,540.00	6000	\$8,010.00	\$19,659.28
	<b>Totals</b>	<b>11280</b>	<b>\$38,907.28</b>		<b>\$6,560.00</b>	<b>34ha</b>	<b>\$23,995.00</b>	<b>\$8,745.00</b>	<b>17946</b>	<b>\$12,832.14</b>	<b>14000</b>	<b>\$22,321.30</b>	<b>\$113,360.72</b>

## 5.2 Woody weed control

CVA  
✓

Horsfall and Tapfield both had woody weed control conducted on their properties. Horsfall had Olive and Boneseed control carried out. This was the last year of their three year work plan. This year the services of Conservation Volunteers Australia (CVA) were used to remove the Boneseed while a contractor was used to poison the Olive. Using CVA proved to be a worthwhile exercise as they were able to provide up-to ten volunteers for two days while the WHLG only had to pay for the supervision and travelling arrangements for the group. The volunteers were able to remove a large number of Boneseed plants due to the number of people on the ground at one time.

The Tapfield property had extensive Montpellier Broom removal work carried out due to a fire on the property in 2008. This major disturbance resulted in a very large germination rate of Broom. A Bushcare contractor was used to remove the Broom before the newly germinated seedlings were able to flower and set seed. This concentrated and intense effort will hopefully eliminate Broom from the property so long as there is on-going monitoring on the property.

## 5.3 Revegetation/Fencing

The properties where fencing and revegetation was conducted were Badger (Mount Wilson), Dyer/van Camp, Thomas and Giles while Beal had only fencing carried out. A total of 30ha was revegetated across the four properties with 10ha being revegetated at Giles, 8ha at Dyer/van Camp and 6ha each at Badger and Thomas.

A total of 11,280m of fencing was installed across five properties with the largest amount of fencing (4100m) installed at Beal's. 2850m of fencing was installed at Badger's, 1800m installed at Giles', 1600m installed at Dyer/van Camp's and 930m installed at Thomas'.

## 5.4 Properties

### 5.4.1 Badger

Fencing and revegetation work at Badger's was in a creek line located in the centre of the property. The proposed fencing of the creek line on the eastern side of the property has not proceeded as yet and may happen at a later date. The owners had trouble initially in finding suitable fencing contractors and as a consequence the fencing and revegetation was conducted later than would have been ideal. A total of 4066 plants were planted with no direct seeding being carried out. Figure 18 shows the fenced creek line with revegetation occurring within fenced area. Table 23 shows the species and numbers planted.



Figure 18 Creek line fenced at Badger's with revegetation established within fenced area.

Table 23 Species and of number of individuals planted on the Badger property

Species	Common Name	seedlings
<i>Acacia. myrtifolia</i>		196
<i>A. rupicola</i>	Rock Wattle	160
<i>A. verniciflua</i>	Varnish Wattle	160
<i>Bursaria spinosa</i>	SA Christmas Bush	98
<i>Allocasuarina verticillata</i>	Drooping Sheoak	155
<i>Dodonaea viscosa</i>	Sticky Hop-bush	11
<i>Eucalyptus camaldulensis</i>	River Red Gum	84
<i>E. cosmophylla</i>	Cup Gum	742
<i>E. fasciculosa</i>	Pink Gum	294
<i>E. viminalis ssp. cygnetensis</i>	Rough Barked Manna Gum	686
<i>Hakea rostrata</i>		98
<i>H. rugosa</i>		119
<i>Hardenbergia violacea</i>	Native Lilac	98
<i>Leptospermum continentale</i>		36
<i>L. myrsinoides</i>		294
<i>Melaleuca decussata</i>		90
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	198
<i>Pultenea daphnoides</i>		227
<i>Xanthorrhoea semiplana</i>	Yacca	320
	<b>TOTAL</b>	<b>4066</b>

#### 5.4.2 Beal

4100m of fencing was installed on Beal's resulting in over 2km of creek line being protected from stock. It is envisioned the fenced off area will be revegetated at a later date resulting in over 50ha of land being rehabilitated. Two major creek lines (one on each side of the property) which flow through the property have been fenced, while a smaller creek line in the centre of the property is also fenced. Figure 19 shows the fenced areas on the Beal property.



Figure 19 Fenced areas on the Beal property

### 5.4.3 Dyer/van Camp

1600m of fencing and 8ha of revegetation was conducted on the property this financial year. The area fenced and revegetated was located in the centre of the property and included approx. 700m of creek line and a very steep section of the property that Anthony and Lissa wished to restrict stock access to. Table 24 shows the species, number of seedlings and weight of seed planted on the property. Figure 20 shows the fenced area on the property with revegetation occurring within fenced area.

Table 24 Species, number of individuals and weight of seed planted on the Dyer/van Camp property

Species	Common Name	seedlings	Seed gms
<i>Acacia acinacea</i>	Wreath Wattle	91	100
<i>A. melanoxylon</i>		150	50
<i>A. myrtifolia</i>		100	100
<i>A. pycnantha</i>	Golden Wattle		500
<i>A. retinodes</i>		100	
<i>A. rupicola</i>	Rock Wattle	200	
<i>Bursaria spinosa</i>	SA Christmas Bush	150	
<i>Allocasuarina striata</i>	Stalked oak-bush	100	
<i>A. verticillata</i>	Drooping Sheoak	600	100
<i>Calytrix tetragona</i>		50	10
<i>Dodonaea viscosa</i>	Sticky Hop-bush	50	200
<i>Enchylaena tomentosa</i>	Ruby saltbush	100	
<i>Eucalyptus camaldulensis</i>	River Red Gum	100	20
<i>E. fasciculosa</i>	Pink Gum	500	100
<i>E. leucoxylon</i>	SA Blue Gum	600	100
<i>E. microcarpa</i>			50
<i>E. odorata</i>		300	80
<i>E. porosa</i>		200	50
<i>Hakea rostrata</i>		100	
<i>H. rugosa</i>		100	
<i>Hardenbergia violacea</i>	Native Lilac	100	
<i>Juncus pallidus</i>	Pale Rush	200	
<i>Leptospermum continentale</i>		300	50
<i>L. lanigerum</i>		50	
<i>Melaleuca decussata</i>		100	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	300	15
<i>Pultenea daphnoides</i>		100	
<i>Xanthorrhoea semiplana</i>	Yacca	300	
	<b>TOTAL</b>	<b>5041</b>	<b>1525</b>



Figure 20 Fenced area on Dyer/van Camp's property with revegetation occurring within fenced area



#### **5.4.4 Lewis-Christie**

Post planting weed control was carried out on the Lewis-Christie property. This was weed control on the previous year's revegetation. Using onion mesh guarding on this property proved to be very worthwhile. The property is regularly visited by kangaroos which have previously caused considerable damage to the newly planted seedlings. Some losses were still experienced by using the guarding but the losses were minimal.

#### **5.4.5 Tapfield**

Woody weed control was conducted on Tapfield's, primarily to control Montpellier Broom. An intense fire passed through the property in the summer of 2008. As a consequence an explosion of Broom seedlings germinated along with the germination of native species. This major disturbance provided an ideal opportunity to implement an intensive weed control program as the vast majority of Broom seedlings would have germinated after the fire. Myall Productions were engaged to remove the Broom seedlings. A large number of Broom seedlings germinated in amongst the newly germinated stringybarks and these Broom seedlings needed to be removed without causing too much damage to the native vegetation. Two outbreaks of Broom were in more open disturbed areas and these proved to be less problematic than the Broom seedlings in the damp gullies. Ongoing monitoring will be crucial to ensure the Broom seedlings do not establish themselves again on this property.

#### **5.4.6 Thomas**

930m of fencing and 6ha of revegetation was conducted on Thomas' property. The work was conducted on the eastern side of the property and included an area where previous revegetation has been done but was not all that successful (maybe due to kangaroos) and in a new area adjoining previous revegetation. The fencing on this property is designed to keep stock in a particular area as opposed to most other properties where the fencing is designed to keep stock out of certain areas. Figure 21 shows the fenced and revegetated areas on the Thomas property while Table 25 shows the species the number of individuals and the weight of seed planted.



Figure 21 Fenced and revegetated area on the Thomas property

Table 25 Species, number of individuals and weight of seed planted on the Thomas property

Species	Common Name	seedlings	Seed gms
<i>Acacia acinacea</i>	Wreath Wattle		100
<i>A. melanoxylon</i>		50	
<i>A. myrtifolia</i>		50	100
<i>A. pycnantha</i>	Golden Wattle		500
<i>A. rupicola</i>	Rock Wattle	100	
<i>A. verniciflua</i>	Varnish Wattle	100	
<i>Bursaria spinosa</i>	SA Christmas Bush	100	
<i>Allocasuarina verticillata</i>	Drooping Sheoak	250	100
<i>Calytrix tetragona</i>			10
<i>Dodonaea viscosa</i>	Sticky Hop-bush		200
<i>Enchylaena tomentosa</i>	Ruby saltbush	77	
<i>Eucalyptus camaldulensis</i>	River Red Gum		10
<i>E. fasciculosa</i>	Pink Gum	300	100
<i>E. leucoxylon</i>	SA Blue Gum	300	100
<i>E. odorata</i>		142	80
<i>E. porosa</i>		44	50
<i>Hakea rostrata.</i>		81	
<i>Hardenbergia violacea</i>	Native Lilac	100	
<i>Juncus pallidus</i>	Pale Rush	100	
<i>Leptospermum continentale</i>		200	50
<i>Melaleuca decussata</i>		100	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	200	15
<i>Xanthorrhoea semiplana</i>	Yacca	300	
	<b>TOTAL</b>	<b>2594</b>	<b>1415</b>

#### 5.4.7 Horsfall

The woody weed control was a continuation of weed control work carried out over the last few years. Myall Productions was engaged to poison mature Olive trees that pose a threat to the remnant *E. porosa* located on the property. Conservation Volunteers Australia were engaged to provide labour for the hand pulling of Boneseed which is on the property. This proved to be an effective and cost efficient method of woody weed control on this property. Ten volunteers removed a large quantity of Boneseed at very little cost to the WHLG.

#### 5.4.8 Giles

The on-ground works on the Giles property was funded through the Federal Government's Community Coast Care program. The work involved fencing two creek lines and revegetating the fenced areas. Approximately 1800m of stock proof fence was installed and about 10ha of revegetation was undertaken. Figure 22 shows fenced area on the Giles property with revegetation occurring within fenced area. Table 26 shows the species, the number of seedlings and the weight of seed planted on the Giles property.



Figure 22 Fenced area on the Giles property with revegetation occurring within fenced area

Table 26 Species, number of individuals and weight of seed planted on the Giles property

Species	Common Name	seedlings	Seed
<i>Acacia acinacea</i>	Wreath Wattle	196	100
<i>A. melanoxylon</i>		198	50
<i>A. myrtifolia</i>		50	50
<i>A. pycnantha</i>	Golden Wattle	600	
<i>A. retinodes</i>		192	
<i>A. rupicola</i>	Rock Wattle	150	
<i>Bursaria spinosa</i>	SA Christmas Bush	200	
<i>Allocasuarina striata</i>	Stalked oak-bush	100	
<i>A. verticillata</i>	Drooping Sheoak	600	100
<i>Calytrix tetragona</i>		100	
<i>Dodonaea viscosa</i>	Sticky Hop-bush	200	
<i>Enchylaena tomentosa</i>	Ruby saltbush	100	
<i>Eucalyptus camaldulensis</i>	River Red Gum	100	20
<i>E. fasciculosa</i>	Pink Gum	700	100
<i>E. leucoxylon</i>	SA Blue Gum	700	100
<i>E. microcarpa</i>			36
<i>E. odorata</i>		200	80
<i>E. porosa</i>		200	40
<i>Hakea rugosa</i>		100	
<i>Hardenbergia violacea</i>	Native Lilac	150	
<i>Juncus pallidus</i>	Pale Rush	463	
<i>Leptospermum continentale</i>		200	50
<i>L. lanigerum</i>		50	
<i>Melaleuca decussata</i>		100	
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	300	
<i>Pultenea daphnoides</i>		100	
<i>Xanthorrhoea semiplana</i>	Yacca	300	
	<b>TOTAL</b>	<b>6349</b>	<b>726</b>

## 5.5 Summary

This year was quite productive for the amount of fenced creek line and revegetation conducted across the hillsface. Over five kilometers of creek line has been fenced off, restricting stock access to the creek lines, and thirty hectares of hillsface has been revegetated. Also some very important remnant stringy-bark woodland has had a major threat to its integrity removed. Once again onion mesh guarding was used on the majority of seedlings planted and this seems to be an effective deterrent to the kangaroos. Although some seedlings are still being removed the number of seedlings lost is negligible in comparison to previous seasons. The rainfall events so far this planting season have been promising but good follow up spring rains will determine the success of this year's revegetation.

## Appendix 1

Total number of hectares revegetated, total length of fencing constructed and total number of hectares of remnant vegetation protected from woody weed threats from Feb.

2007-June 2010

<b>Property</b>	<b>Reveg (hectares)</b>	<b>Fencing (metres)</b>	<b>Weed control (hectares)</b>
Badger	7.5	5590	
Beal	36	5200	1
Brown			1
Campbell			1
Dyer/van Camp	54	4000	
Edwards			1
Elmslie			1
Fopp			1
Foster	1		
Gerhardy	2.7	105	
Giles	13	1800	
Gilmore			1
Hersey	18		1
Horsfall			3
Hoskin			1
Johns	6		1
Just	2	1750	
Lewis-Christie	11		
Screenings	12		1
Shaw		2690	1
Tapfield			15
Taylor			1
Thomas	21	930	
Tregloan	1	1800	
<b>Totals</b>	<b>185.2ha</b>	<b>23,865m`</b>	<b>31ha</b>

