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Agwest revegetation monitoring activity : report

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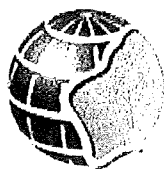


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Department of Agriculture



AGWEST Revegetation Monitoring Activity



June 2002



Natural Heritage Trust
Helping Communities Helping Australia

AGWEST Revegetation Monitoring Activity

Report June 2002

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1.0 INTRODUCTION

The AGWEST* Revegetation Monitoring Activity was initially established in 1994 to assist on-ground community groups record and monitor landcare vegetation and revegetation projects. The activity involves recording data from approximately 40 landcare groups and 12 Land Conservation District Committees (LCDCs) in the Peel Harvey catchment. Leschenault and Geographe catchments were covered in 1999 / 2000. AGWEST coordinates, collects and records all information from these groups. Using a computer Geographical Mapping System (GIS), the data can be readily transformed into useful maps and reports.

One of the refinements of the project has been to include information on the funding mix to try and track what funding initiative was the catalyst for a project to proceed.

The AGWEST Revegetation Monitoring Activity aims to help on-ground community groups to monitor, evaluate and record landcare activities and to assist with future strategic planning of landcare projects.

The production of this annual report, and the gathering of landcare vegetation and revegetation data, has been funded by Natural Heritage Trust (NHT) in partnership with AGWEST. Funding for this project began in 1998/99 to assist in gathering data in Peel Harvey catchment, to extend the project to the Leschenault and Geographe catchments in 1999 / 2000, and the production of annual reports.

This annual report summarises the landcare vegetation and revegetation projects that were completed at the end of 2001. Whilst every effort has been made to collect all activity data, it is recognised that these results are conservative.

2.0 PROJECT OBJECTIVES

- To produce a standardised method for recording landcare activity in the Peel Harvey, Leschenault and Geographe catchments that was accepted by the community;
- To provide LCDCs and landcare groups with an effective means of evaluating, monitoring and recording landcare activity;
- To allow groups to assess the impact of landcare revegetation activities and build this into refining local, catchment and regional planning; and
- To provide funding bodies and groups with reports highlighting landcare achievements as a result of their contributions.

* AGWEST has not been changed to Department of Agriculture so as to remain consistent with previous reports.

3.0 THE PROCESS

After a 1994 /1995 pilot of the AGWEST Revegetation Monitoring Activity with the Coolup LCDC, it was decided to expand the activity to the entire Peel Harvey catchment, and in 1999 to the Leschenault and Geographe catchments also.

During 1996 and 1997, a refined method for mapping and monitoring landcare activities within the Peel Harvey catchment was developed between AGWEST and the LCDCs. Presently the process involves a partnership whereby LCDCs and their subsidiary landcare groups provide maps and reports of past and present landcare vegetation and revegetation activity to a contact in AGWEST. The information is then recorded into a database to produce reports, and GIS software to produce maps. AGWEST prepares these reports and maps, and routinely communicates with community groups to ensure information is correct and up to date. AGWEST may also use landcare project application forms (for example NHT and Alcoa application forms) as a means of gathering data. Community groups can then utilise the maps and reports to aid in planning and decision making of landcare activities.

In the AGWEST Revegetation Monitoring Activity, the landcare vegetation and revegetation projects that have taken place have been divided into "project types" (Table 1). As with the project types, the funding mix has also been divided into categories (Table 2).

Table 1: Project types within the AGWEST Revegetation Monitoring Activity

Project Type	Project Description
Streamlining	Drains, creeks or rivers that are fenced to exclude stock, and vegetated.
Alley farming	Agricultural activities pursued between tree belts, fenced to exclude stock.
Vegetation belts	Windbreaks, shelter belts, wildlife corridors, fenced to exclude stock.
Tree lots	Block plantations of trees, fenced.
Protective fencing	Fencing to exclude stock from remnant vegetation, wetlands or other sensitive areas.
Revegetation	Protection of reserves and revegetation, fencing not required.
Other	For example, stock crossings, wetland rehabilitation, effluent ponds.

Table 2: Funding types within the AGWEST Revegetation Monitoring Activity

Funding Body	Description
ALCOA	Funded by ALCOA Landcare Program (plus farmer contributions)
Farmer	100% funded by the property owner
Industry/Government	Mining companies, local government etc.
Natural Heritage Trust	Funded by NHT (plus farmer contributions).
Other	Funded by others, NLP, Greening Aust etc.(plus farmer contributions)

Following is an overview of the landcare vegetation* and revegetation activity** within the Peel Harvey catchment and LCDC groups.

When comparing graphs, be sure to take notice of the scale. The scale differs between catchment graphs and LCDC graphs.

4.0 PEEL HARVEY CATCHMENT - OVERVIEW

Landcare in the Peel Harvey catchment has developed and evolved significantly in the past two decades. The landcare cycle in the Peel Harvey catchment began in the early 80s as a result of extensive algal blooms in the Peel Harvey Estuary, followed by the development and push for streamlining.

Today the Peel Harvey catchment is home to a pro-active sub regional Catchment Council, four LCDCs and numerous landcare and environmental groups who are supported by NHT, State government agencies, local government and the Alcoa Landcare Program.

Revegetation activities (not including protected remnant vegetation) in the Peel-Harvey catchment have increased significantly in the past decade (Appendix 1). In 1992, revegetation projects covered approximately 400 ha of land, which increased to roughly 1500 ha by 2001 (Fig 1). The majority of this increase is attributable to revegetation activities involving vegetation belts, streamlining and tree lots (Fig 2).

* Landcare vegetation includes streamlining, vegetation belts, alley farming, tree lots, revegetation, wetland rehabilitation and protected remnant vegetation.

** Revegetation includes streamlining, vegetation belts, alley farming, tree lots, revegetation and wetland rehabilitation.

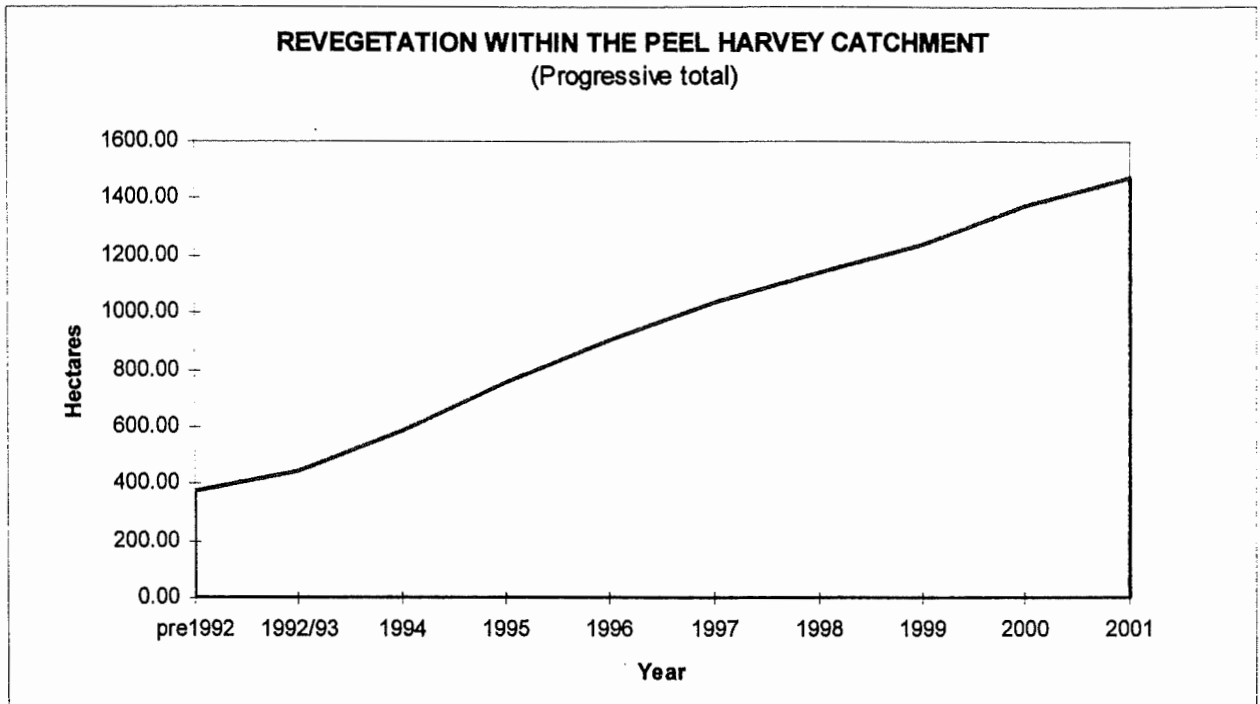


Figure 1 - Revegetation in the Peel Harvey Catchment, pre 1992 - 2001.

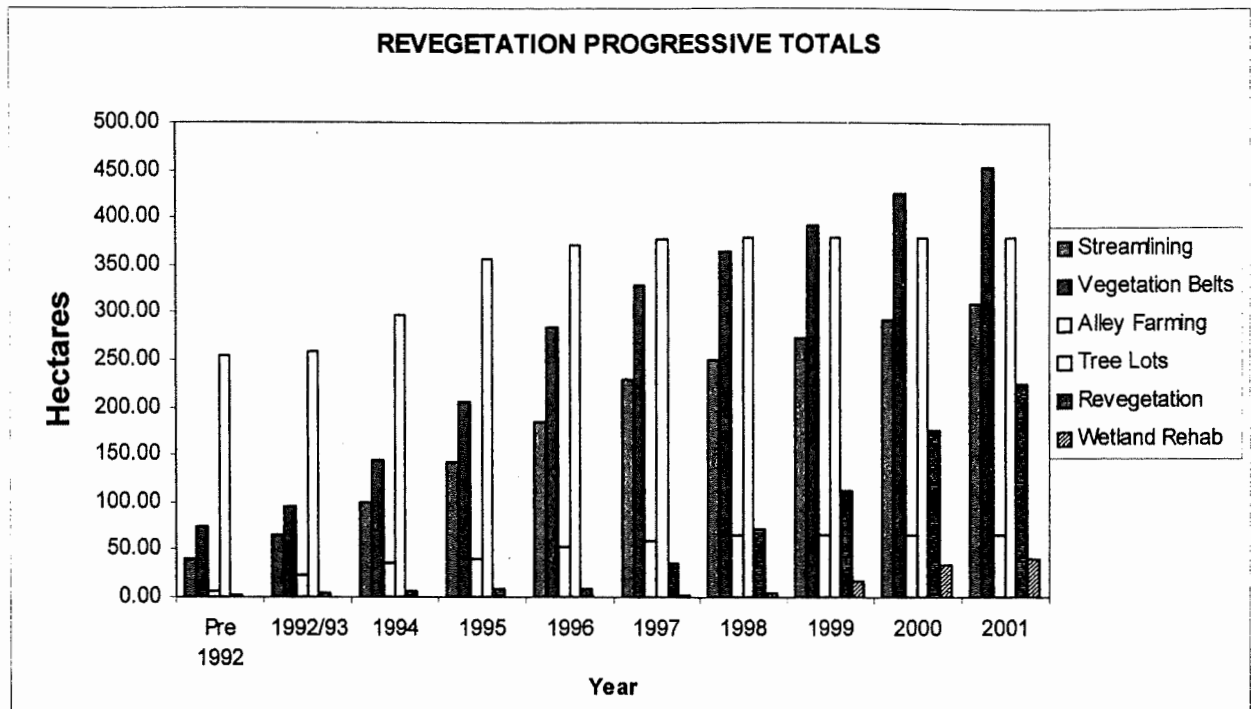


Figure 2 - Revegetation types in the Peel Harvey catchment, pre 1992 – 2001 (Progressive Totals).

The rapid increase in revegetation between 1992 to 2001 was catalysed by farmer contributions and the Alcoa Landcare Program funding (Fig 3).

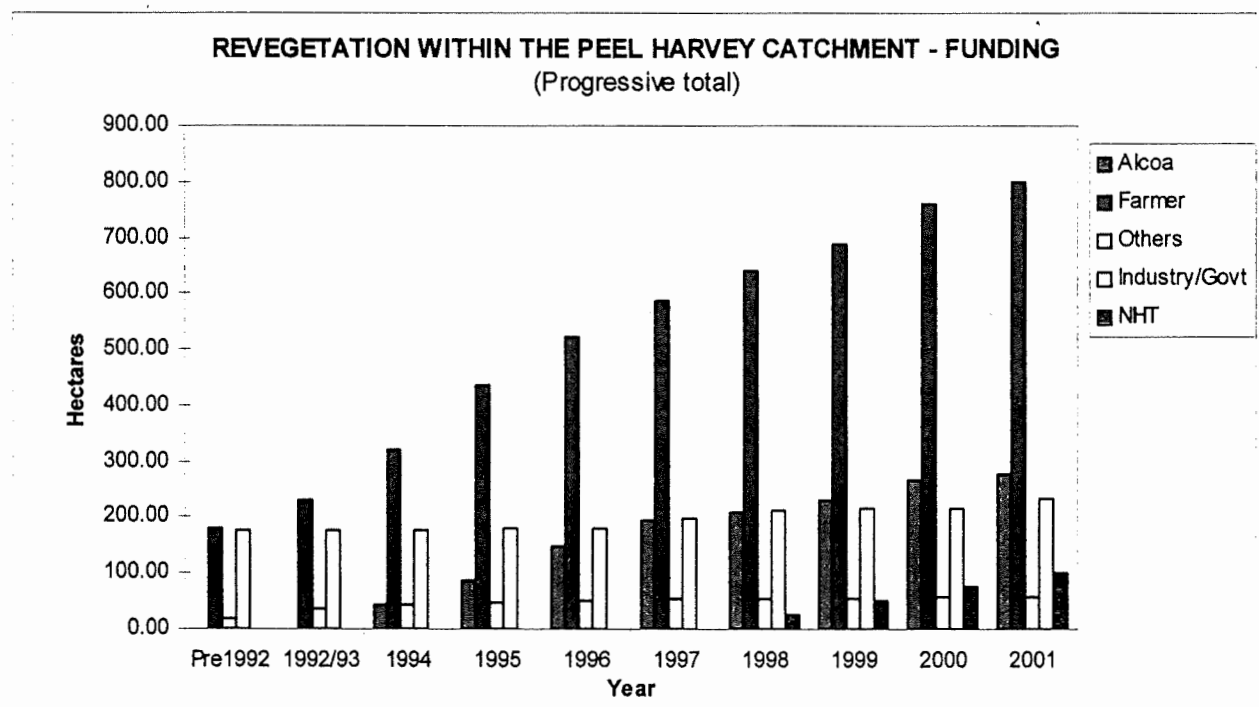


Figure 3 - Revegetation in the Peel Harvey catchment, pre 1992 to 2001 (Funded by).

The vast majority of revegetation projects in the Peel Harvey catchment have been conducted on private land. This has been reinforced by the amount of funding contributed by farmers, as indicated by the dark grey bars in Figure 3. The level of funding provided by other landcare initiatives (see Table 2) has been fairly limited within the Peel-Harvey catchment in terms of real on-ground action as indicated in Figures 3.

Due to the landcare achievements within the Peel Harvey catchment in the years prior to 1997, the LCDCs have been able to attract significant NHT Federal funding enabling them to expand some of the landcare activity. Figure 3 clearly indicates that NHT funding has been a catalyst for on-ground landcare projects, especially in 1998-2001. NHT funds have also been directed into Community Landcare Coordinator positions to assist in increasing on-ground action.

4.1 LCDCs in the Peel Harvey Catchment

To achieve a coordinated approach to natural resource management, four LCDCs have been formed in Peel Harvey catchment: Serpentine Jarrahdale, Dandalup Murray, Coolup and Harvey River. Appendix 1 shows the location of each LCDC in the Peel-Harvey Catchment and the LCD (Land Conservation District) boundaries. Below is an overview on each LCDC highlighting the landcare vegetation activities (revegetation projects plus protected remnant vegetation) that have been achieved between pre 1992 and 2001.

4.1.1 Coolup LCDC

Landcare vegetation projects within the Coolup LCD peaked between 1994 and 1996, with annual totals in 1994 reaching 120 ha (Fig 4). Since 1996 landcare vegetation totals have leveled at approximately 40 ha.

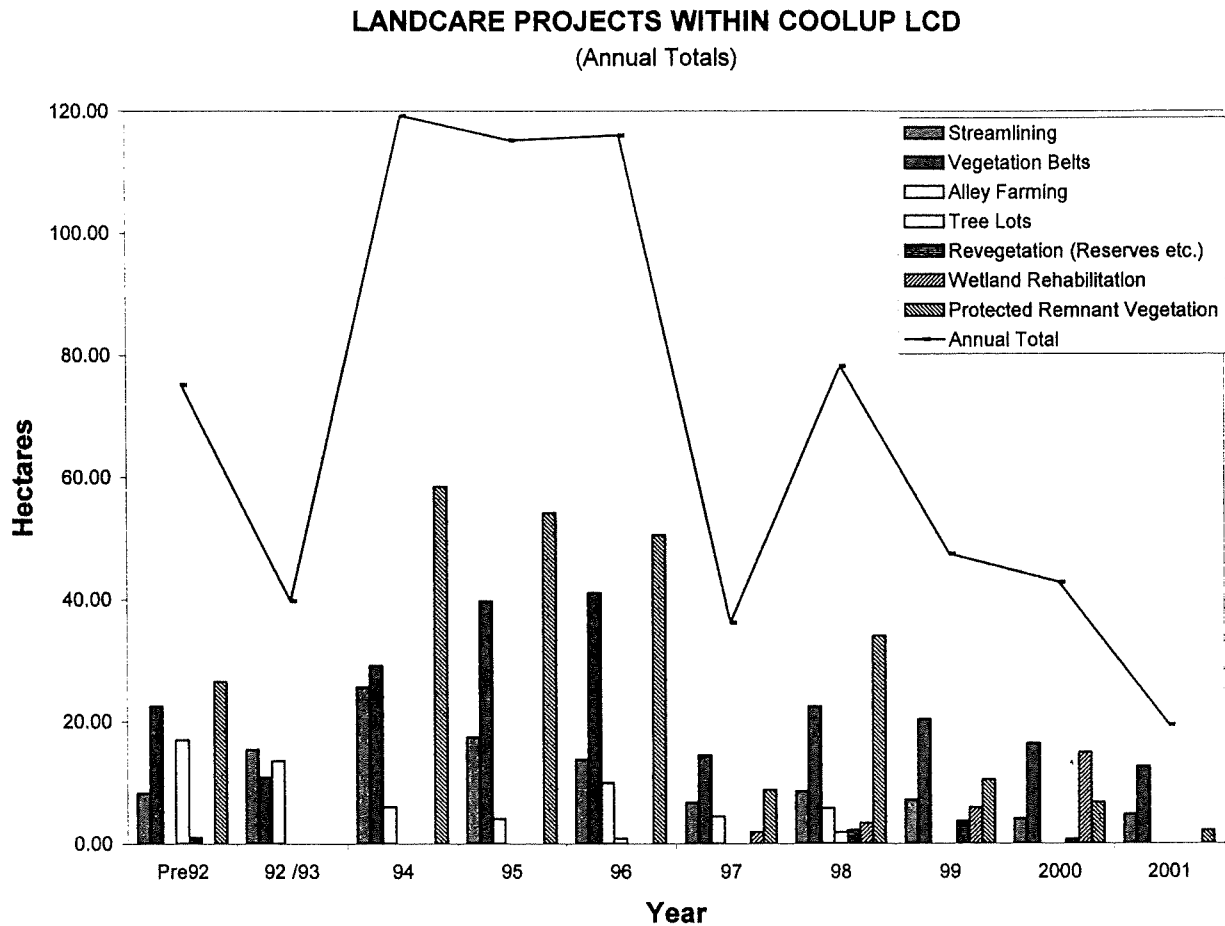


Figure 4: Landcare vegetation projects within the Coolup LCDC, pre 1992-2001 (annual totals).

Protection of remnant vegetation has been a common activity in the Coolup LCD. This project dominated in the period between 1994 to 1996, with approximately 60 ha, 55 ha and 50 ha being protected respectively during these years. Vegetation belts have also been a common project with planting occurring each year, especially in 1994 – 1996. The incorporation of streamlining in the Coolup LCD has been steady between pre 1992 and 1999, and wetland rehabilitation has been occurring in 1997 - 2000. The apparent reduction in activity in 1997 related to a need by many active LCDC members to consolidate existing plantings and ease off after 3 years of hectic landcare projects. 2001 activity reflects the trend of many farmers to “take an NRM break” and also that many of the more committed landcarers have completed initial planned activity.

4.1.2 Harvey River LCDC

Landcare vegetation projects within the Harvey River LCD have been dominated by the 175 ha of tree lots planted pre 1992 as part of the Wagerup buffer zone (Fig 5). Annual totals in the Harvey River LCD rose in 1996 and 1999-2001, with 20ha, 30ha, 30ha and 33ha planted respectively in these years.

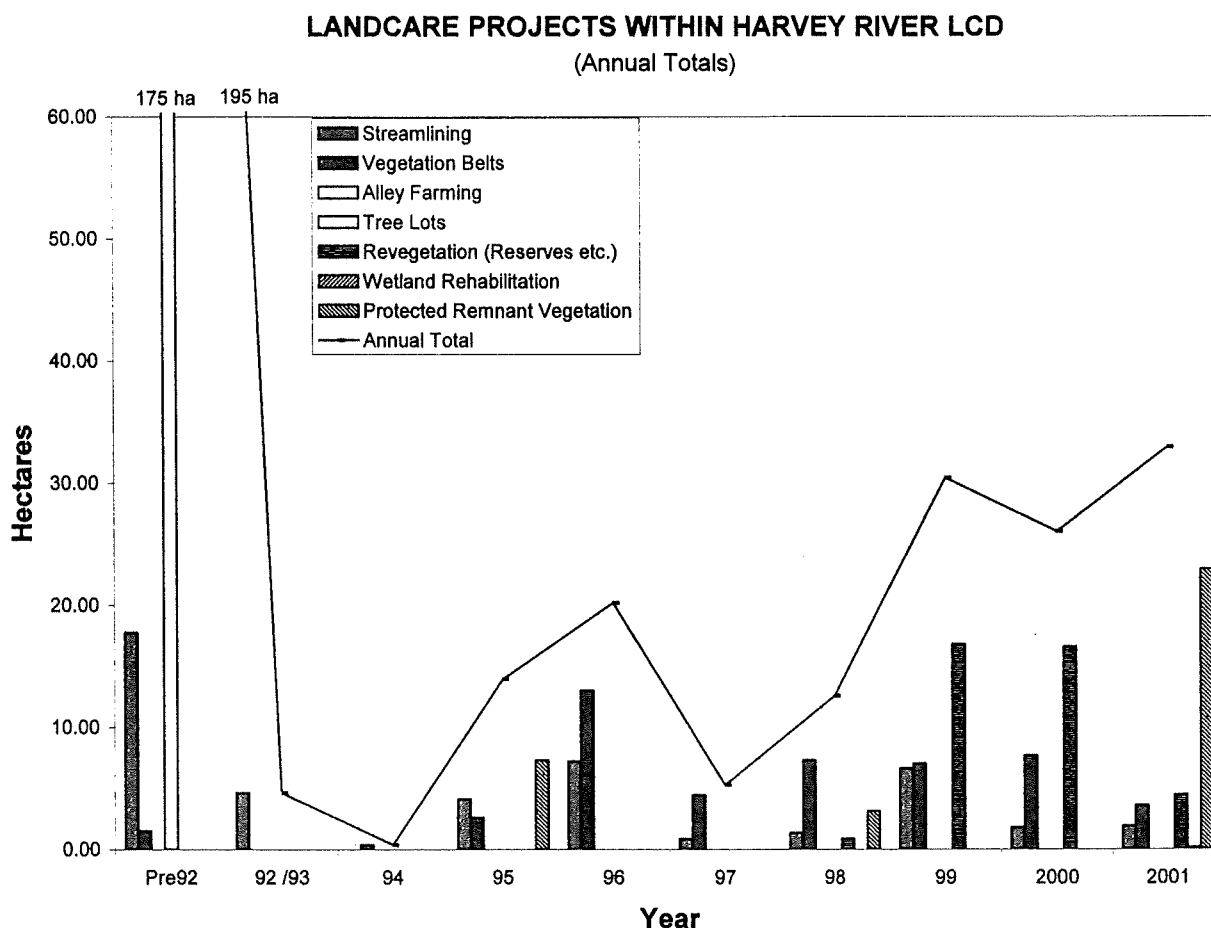


Figure 5: Landcare vegetation projects in the Harvey River LCDC, 1992-2001 (annual totals).

In pre 1992, 1996 and 1999, streamlining was a popular project, with 18ha, 8ha and 7ha planted respectively during these years. Vegetation belts were planted between 1995 and 2000, with 14 ha planted in 1996. In 1999 and 2000, the Bushcare project has also funded rehabilitation of reserves in the Harvey River LCD area. In 2001 23ha of remnant vegetation was fenced off and protected. The Harvey River LCDC has also completed projects other than revegetation, such as the installation of dairy effluent systems.

5.1.3 Dandalup Murray LCDC

Landcare vegetation projects within the Dandalup Murray LCD have focused on protecting remnant vegetation and in 1996 this project totaled 114.65 ha (Fig 6). Annual totals have been irregular during the years of data collection, with significant planting pre 1992 (77ha) and 1994–1996 (62, 137 and 66 ha) also being years of high activity.

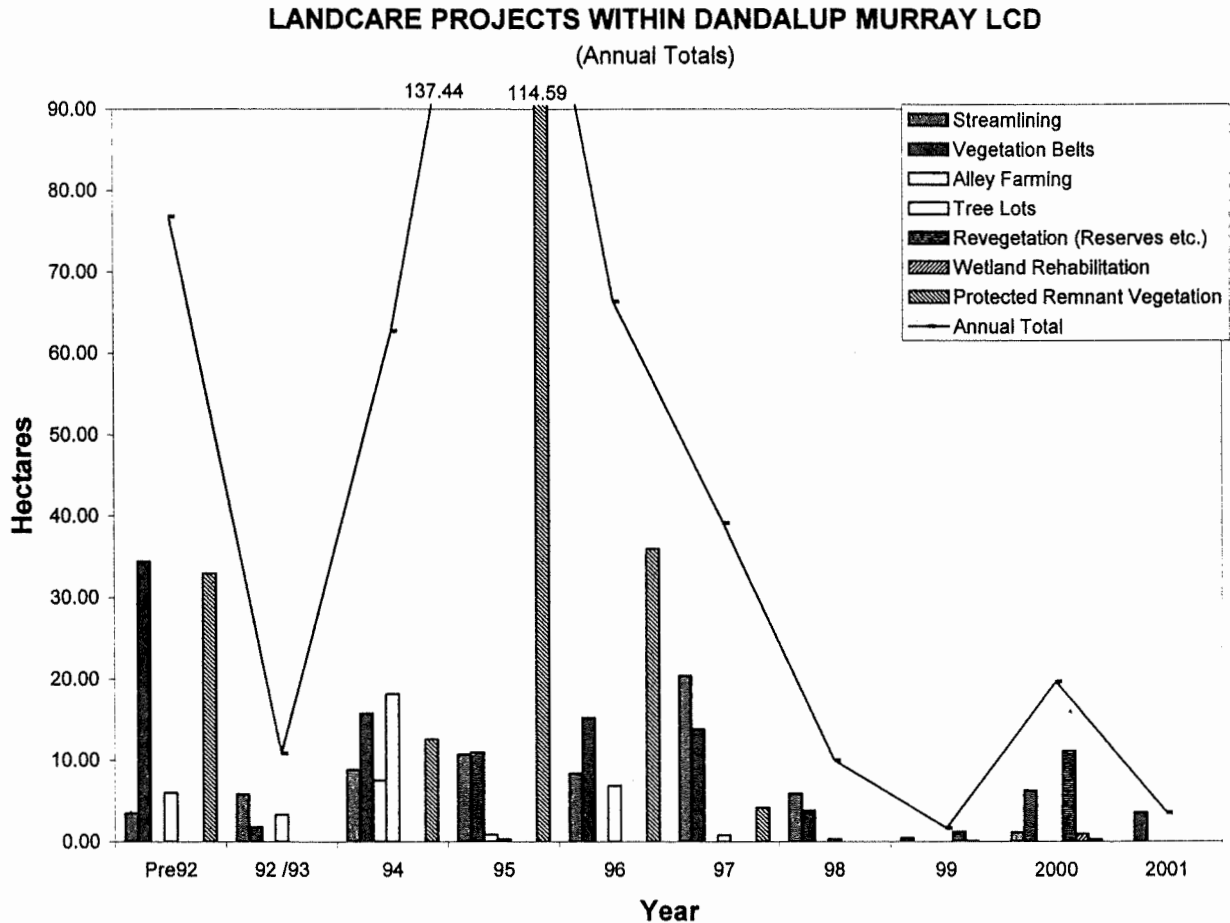


Figure 6: Landcare vegetation projects in the Dandalup Murray LCDC, pre 1992 – 2001 (annual totals).

Streamlining and vegetation belts have been steadily planted during the period of data collection. Streamlining has ranged from approximately 3 ha planted in pre 1992 to 18 ha planted in 1997. Revegetation of reserves was a new project in the LCD in 2000, with approximately 15 ha protected. In 2001, activity levels have tapered again as many landcarers are needing to concentrate harder on making a living, so have taken a short break from revegetation activities.

4.1.4 Serpentine Jarrahdale LCDC

The 1234 ha of remnant 'Lowlands' indicates the significance of this bush to the members of the Serpentine Jarrahdale LCDC (Fig 7). This area of remnant vegetation has existed in Serpentine Jarrahdale Shire for many years, even before the LCDC was established.

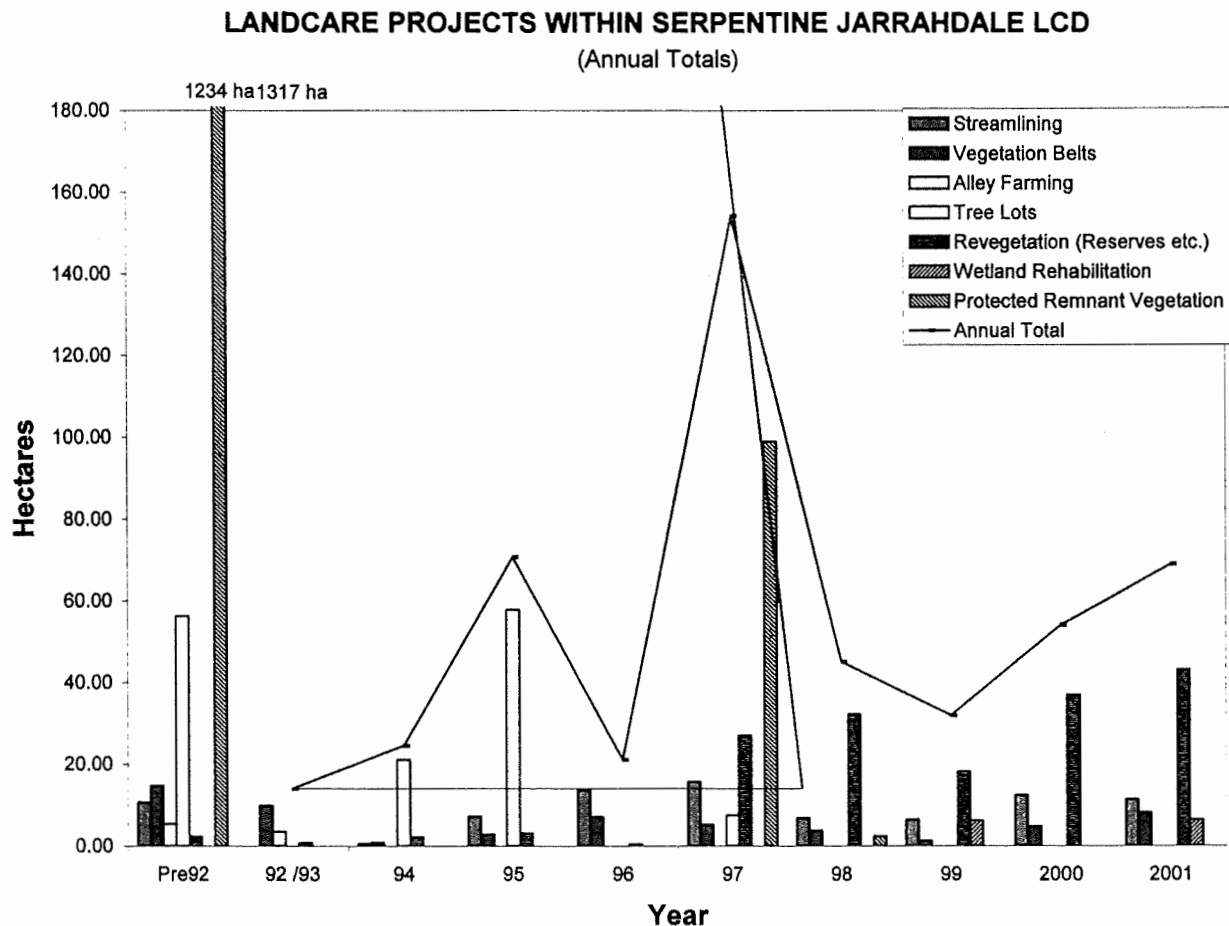


Figure 7: Landcare vegetation projects within the Serpentine Jarrahdale LCDC, pre 1992 - 2001 (annual totals).

Annual totals in the Serpentine Jarrahdale LCD have been irregular, reaching approximately 70 ha in 1995, 155 ha in 1997, 60 ha in 2000 and 70ha in 2001

Serpentine Jarrahdale has focused on protecting remnant vegetation. In recent years the area of protected remnant vegetation was greatest in pre 1992 at 1234 ha and in 1997 at 100ha, however did not appear to be significant in other years. Tree lots have been a significant landcare project in the LCD with approximately 58 ha planted pre 1992 and 1995, and approximately 20 ha planted in 1994. Revegetation of reserves has only been undertaken in the period between 1997-2001, with approximately 30ha, 35ha,38ha and 43ha completed respectively in these years. Serpentine Jarrahdale is reflected as the most active of the Peel Harvey LCDCs

5.0 VALUE OF LANDCARE IN THE PEEL HARVEY

This Annual Report documents the amount of on ground landcare projects that have been undertaken in the Peel Harvey catchment. Whilst recording this information on a hectare basis is very useful, being able to estimate a dollar figure against these projects is valuable in determining how and where our funding dollars are being spent.

In the Peel Harvey catchment, natural resource management agencies and the community have been successful in attracting an estimated \$143,639 for on-ground landcare activities in 2001. Match this figure with in kind contributions and we get a minimum estimate figure of \$287,278 (Table 3).

Most funding from NHT, Alcoa, industry and government and others requires the proponent to match the grants dollar for dollar. Therefore any inkind contributions are based on doubling the funding component of a landcare project. AGWEST understands that this figure is conservative, and landholders often contribute more, however calculations in this report are only estimates of the value of landcare. Calculations can be seen in Appendix 5.

Project	Peel Harvey funding 2001	Peel Harvey funding Total
Streamlining	\$29,231	\$500,566
Vegetation Belts	\$44,978	\$733,741
Alley Farming		\$105,773
Tree Lots		\$687,164
Revegetation (reserves)	\$57,344	\$270,291
Wetland Rehabilitation	\$10,646	\$71,416
Protected Remnant Vegetation	\$1,440	\$28,945
TOTAL LANDCARE FUNDING	\$143,639	\$2,397,898
PLUS INKIND	\$287,278	\$4,795,792

Table 3: Total estimated dollars of funding secured in the Peel Harvey Catchment for landcare projects. (Pre1992 – 2001)

The value of landcare calculations are based on the area in hectares that has been protected through landcare projects. For example, 10 ha of protected remnant vegetation may have been protected as a result of 20 m of fencing. Please note that wetland rehabilitation takes into account the entire area of a wetland, even though only a small section may have been protected by a landcare project.

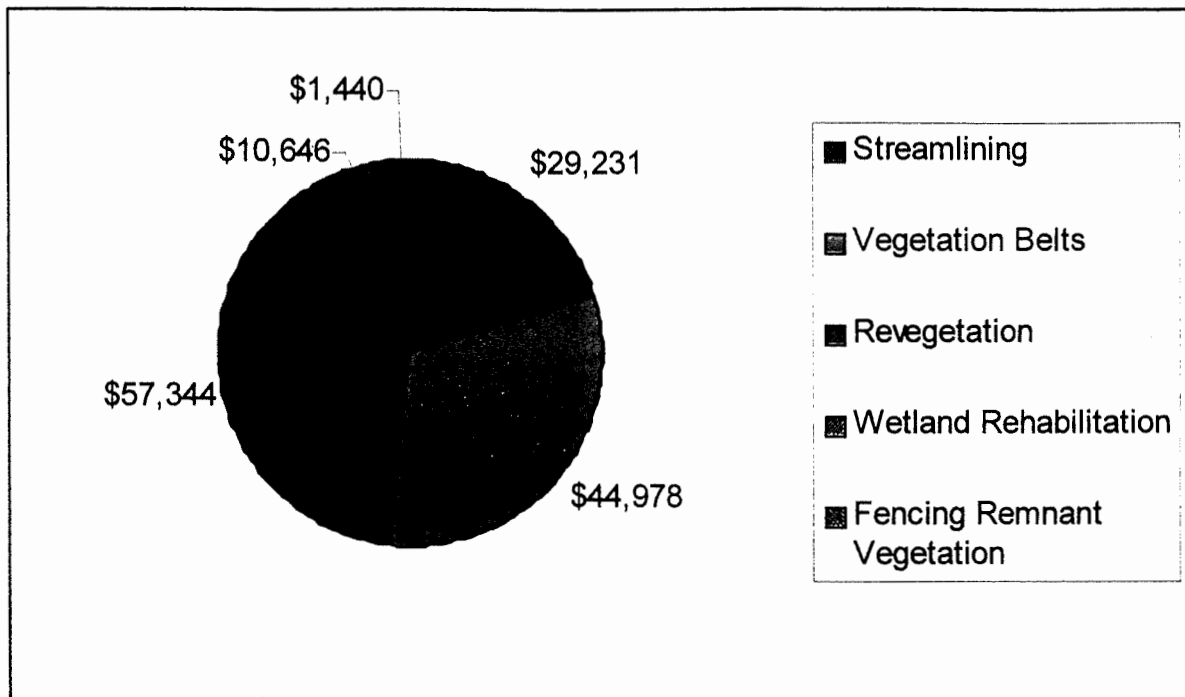


Figure 22: Estimated value of landcare in the Peel Harvey catchment (funding dollars), 2001.

In 2001, the Peel Harvey catchment was successful in attracting an estimated \$143,639 for on ground landcare works. Revegetation of reserves and vegetation belts used \$57,344 and \$44,978 of this on ground funding respectively, as indicated in Figure 22. Totaling up the community contribution and the funding grants, the full amount of on ground money dedicated to revegetation projects in 2001 is estimated at \$287,278.

In addition to the on ground activity, landcare funding has been directed into Community Landcare Coordinators positions, local government and State government agencies, to assist community members to complete on ground landcare activity.

Most importantly, members of LCDCs and community natural resource management groups, play a large role in the implementation of landcare activity. The dollar value of volunteer contributions to landcare is estimated at \$8, 250, per person, per year (see Appendix 2). This figure is conservative, with many community members devoting a great deal of their time into running community groups, organising planting days and promotional events, and applying for funding grants.

6.0 CONCLUSION

Trends in revegetation and landcare activity in the South West region have been varied and unpredictable. Reasons for these differences may be due to amounts of funding available for on ground activity, level of external support and individual and LCDCs groups' future goals.

Whatever the reasons for the differing trends, this report has highlighted the amount of landcare activity and volunteer contributions that natural resource management groups have made.

Revegetation has been increasing since pre 1992 and can be attributed to the communities keen interest in natural resource management and funding from Alcoa, and other State and Federal organisations being matched by farmer contributions.

Future funding by Federal government, Industry and other initiatives, plus external support, will ensure landcare activities continue in the future. There is still much to be achieved in the Peel Harvey, but this report shows that the community is striving to make continual progress in revegetation.

Appendix 2 – Calculations for the value of landcare

ITEM	FUNDING RATE	AMOUNT PER ha
Fencing (Protecting remnant vegetation)	\$600/km	
Streamlining, Shelter belts Alley Farming (All fenced)	\$1615/km	\$1615
Revegetation of Reserves <ul style="list-style-type: none"> Seedlings – 50c each Ripping and Mounding – \$90/hr and \$50/hr Chemical weed control - \$115/ha Tree Guards – 50c 	<ul style="list-style-type: none"> Seedlings = 1000 plants p/ha(0.5 x 1000) Ripping minimum 3hrs and Mounding minimum 2hrs – based on 4ha per 5hrs = \$370 Tree Guards – 50c (0.5 x 1000) 	<ul style="list-style-type: none"> Seedlings - \$500 Ripping and Mounding - \$92.5 Chemical Weed Control - \$115 Tree Guards - \$500 <p>TOTAL = \$1207.5</p>
Tree Lots and Wetland Rehabilitation – as for Revegetation of reserves, but fenced		\$1807. 5

Assumptions

1. All figures based on NHT costing for 2000 funding round
2. This table does not include the inkind component of the project. Project totals will be doubled to include this component. This estimate will only be the minimum figure, as inkind contributions are often greater than 1:1 as stipulated by funding bodies.

Volunteer Contributions

- Based on \$15 per hour
- 10 meetings per year
- 3 hours per meeting
- 10 hours extra volunteer time per week

$$10 \times 3 \times 15 = 450$$

$$10 \times 15 \times 52 = 7800$$

TOTAL = \$8,250 per year

LANDCARE VEGETATION PROJECTS IN THE PEEL HARVEY CATCHMENT

Appendix 1

