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The Restoration of South Australia's Mallee Region



SANTFA and Environments by Design join to deliver major project

The South Australian No Till Farmers Association (SANTFA) and Environments by Design (E by D) have joined talents to deliver a major Landscape Restoration Project in the Murray Mallee.

SANTFA have over 700 members across SA and offer innovative ways to improve landscape sustainability and farm profits.

E by D, although a relatively new business is led by well known Environmental Consultant Wayne Brown, the States first Revegetation Officer appointed in 1990; a leader in property planning programs.

Joining forces is a positive move for the two organizations providing a significant step forward in providing sustainable agricultural systems for Landowners.

Environments by Design

Environments by design are leaders in creating innovative environmental solutions. We approach each project with a common aim; how can we provide the best possible outcome for our client and the environment. Our strength is in planning and designing innovative solutions for our projects by utilising our teams' knowledge and experience.

Restoration of the Murray Mallee

Large sections of the Murray Mallee of South Australia have been cleared of native vegetation in past decades for the development of farming properties, sometimes exposing unproductive rocky soils or highly erodible sand dunes.

A further result of over clearing has included land management problems such as soil erosion, dryland salinity and deterioration in groundwater resources.

The Biodiversity Project aims to start reversing this situation over the next five years by working with the farming community to revegetate 1000 ha of country and to rehabilitate 500 ha of degraded remnant Mallee vegetation.

Our focus is on large non-productive land with a further emphasis on ecological connectivity that is maximising the outcomes for biodiversity by linking up remnant areas of native vegetation. Designing revegetation projects so that they have benefits for farming operations as well as the natural environment.

Murray Mallee site suffering from poor land management

The Biodiversity Fund Project

This project is a five year project that commenced in the 2012/2013 financial year. The first year delivered 100 ha of revegetation and 15 ha of remnant vegetation being restored. The size of the areas being treated will increase year by year during the project.

Expressions of interest were sought from farmers at a field day at Waikerie conducted by SANTFA (South Australian No-till Farmers' Association). Wayne Brown, General Manager, Environments by Design, said, 'The level of interest was amazing and we were immediately oversubscribed. We were looking for quite big sites so we visited the interested farmers and discussed the project with them. From this we were able to select properties for the first year and have others in line for subsequent years.'

Working with the land owner the selected sites were inspected in detail to determine the type of restoration that would be required. As Wayne Brown described, 'We wanted to put the project into a farm planning framework, thereby taking into account both conservation and farming considerations. We determined what remnant vegetation was present – if any – and what the technical needs were for each site, such as rabbit and weed control and fencing.'

The next stage was to plan the works and to determine the mix of species to use. From this information seed and plants were sourced and contractors engaged to carry out the works.

'In some instances, the farmer did the weed control for us which was great as it got them actively involved in the project', said Wayne, 'For the direct seeding and tubestock planting we used up to 18 different plant species, ranging from understorey up to tree species. In well-cleared areas where local sources are not available, we sourced seed on a regional basis from similar sites.'

Three main sites were planted this year. 'It has been an exceptional year for planting', said Wayne, 'good rains interspersed with warm, sunny days. We have been able to put in some of the largest direct sown areas yet seen in the Mallee which is generally regarded as a difficult region.'



Biodiversity project farmers meeting

Project Sites

Karte

The property of Barry and Annette Atze and their son Tim, is a restoration site comprising a large sand dune system and is non-arable land (Class 7). Some 18 native plant species have been recorded from the site including a number of grasses. Over 10 ha were planted using 4000 tubestock plants and it is intended to extend the plantings to link remnant areas with nearby Karte Conservation Park. Rabbit and weed control was carried out and 2.6 km of fencing erected.

Barry Atze is a third generation farmer and is enthusiastic about the project. 'I've always wanted to replant this country and this project has provided the opportunity. I'm keen to extend the plantings over the next few years.'

Wunkar

Owned by Stephen Heinrich & Sons, has two areas that were direct seeded linking remnants on their property to the roadside corridor. Both sites are fairly stony (Class 6r) and have low agricultural value. 'They are better put to a more appropriate use', said Stephen Heinrich. 'If we try to crop these areas the damage to our equipment exceeds the value of the crop. These plantings will provide linking corridors and at the same time will provide shelter for our crops.'

The site was blanket sprayed by the Stephen to remove a mix of post-cropping weeds (no native plants were present on the site) and then machine direct sown. A total of 104 km of direct seeding was put in. Early monitoring in mid July 2013 gave counts ranging from 125 to 650 plants per hectare.

Noora

A drainage disposal basin of large proportions, 3600 ha, to the east of Loxton and is managed by the Department of Environment, Water and Natural Resources. Revegetation at this site is strategically positioned in close proximity to remnant patches of vegetation and the diverse Murray-Sunset National Park. Replacing deep-rooted vegetation will also assist in reducing the impact of localised dryland salinity.

As the project site had not been cropped for about four years, only the direct seeding lines were sprayed prior to sowing. Native species, in particular grasses, are re-establishing on the site. A total of 100 km of direct seeding was completed and early monitoring in mid July gave counts averaging 2560 plants per hectare. The Loxton Field & Game Association, whom lease a part of the basin, are keen to become actively involved in the revegetation and restoration of the site.

Wunka Site

Machine direct seeding at Noora Basin





Monitoring

All sites have had photopoints installed and monitoring will be done at regular intervals to plot plant establishment. The landowners have undertaken to not graze the sites for at least 10 years, to take part in community field days and research projects, and to help maintain the sites.

The Year Ahead

This year the target is to revegetate 200 ha of the Murray Mallee and to restore 100 ha of bushland. There is scope to extend the plantings at Karte and Wunkar, as well as commencing projects on new properties. Work will also continue at Noora and it is intended to involve adjoining landowners if they are interested. Initial contact has been made and is being followed up with onsite meetings.

As Wayne Brown observed during an inspection of the Year 1 plantings, 'It's not as hard to replant these areas as it was once thought – it all comes down to good planning and site preparation, aided, of course, by good seasonal conditions. I think we will see even more farmers wanting to get involved once the current plantings are more advanced and visible. It's an exciting project to be a part of.'



Early germination



Delivery Team

Environments by Design in partnership with:



South Australia No Till
Farmers Association



Government
of South Australia

Department of Environment,
Water and Natural Resources



Australian Government

The Biodiversity Fund
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