June 2013

Grassy Groundcover Gazette

News, updates and on ground action

Paul's Piece

Dr Paul Gibson-Roy

Senior Restoration Ecologist, Greening Australia (NSW)

Greetings valued readers. I'll begin this Piece with something that we need to be mindful of, but not defeated by. Australia's 2011 State of the Environment Biodiversity 'score card' noted that '*despite promising investment by all jurisdictions in addressing the main pressures on biodiversity, pressures are not being substantially reduced, nor is the decline in biodiversity being arrested or reversed'.* This is particularly true for our grasslands and grassy woodlands. However, the lovely thing I've observed over the years is that despite this honest but worrying assessment, many wonderful and committed people continue to seek ways to protect/restore and enhance these communities albeit at small scales.

Much of this activity started with the Stipa Native Grasses Association which helped raise the profile of native grasses in rural regions and supported many programs initiated by rural landholders. That development of onground techniques was well supported by ecological studies from many committed researchers. More recently, and most encouragingly, we've seen restorationists attempt to include broader ranges of species in their programs. I'd like to think our Victorian Grassy Groundcover Restoration Project (GGRP) was among those influential in testing and demonstrating this approach under field conditions. Currently I think there is a real interest in groundlayer restoration. Greening Australia (GA) has continued its involvement in this area and its staff have taken up and developed groundlayer programs in Tasmania, NSW's south-western slopes, the ACT and on the Cumberland Plain of Sydney's west. This is very exciting, and I hope we'll be able to support each other in these programs. However, supported by Caring for Our Country (CFoC) and Biofund-type funding, other groups are also embarking on exciting ground-layer projects including those by the Torrens River Land Care network (SA), the City of Salisbury (SA), the National Botanic Gardens and the Myer/Kosciusko-2-Coast program. Another really important factor in the eventual success of these programs is that most (including GAs) are aided by the know-how and equipment from restoration and Seed Production businesses now plying their trade including Cumberland Plain Seed (NSW), Euroa Arboretum (Vic), Flora Victoria (Vic), Grassland Flora (Vic), Ko-Warra Seeds (Vic), Native Seeds (NSW/Vic), Natural Capital (NSW), and Outback Native Seeds (SA). Whilst the approaches and goals of each might differ somewhat from region to region and state to state, most embrace (at least to some degree) a range of horticultural, agricultural and ecological principals to achieve their desired outcomes.

I was recently asked to speak at a SPA workshop in Canberra hosted by GA and the Australian National Botanic Gardens. There was so much enthusiasm in the room it was scary! During the afternoon we discussed many of the promising and new developments in our field, but we also faced the reality that in relation to SPAs and grassland restoration unlike in parts of the UK, Europe and North America, Australia does not have a large and well structured seed industry supported by an active restoration sector undertaking whole-of-community restoration. I believe this is mainly due to a lack of significant financial drivers to support ecological restoration (and therefore the associated industry). However, as I've mentioned above, this hasn't stopped people striving. Indeed, nowadays the restoration of complex herbaceous communities is viewed as technically achievable – which has definitely not been the case until recently. This change in attitude/perception, I think, has been made possible through the efforts of a great number of remarkable and largely unsung people over many decades. And now with extra confidence comes an appetite for achievement. So, let's bring it on and trust that these important advances in our understanding of grasslands and grassy woodlands allows us to better balance the environmental health of this country with our need to grow food, build roads and watch flat screen TVs.

On this somewhat didactic note, I'll leave you to read and hopefully enjoy this June edition of the Grassy Groundcover Gazette.

Rod Writes……

Rod White
Grassland Restoration Officer
Greening Australia (Victoria)

Western Water Treatment Plant – Grey Box Woodland Restoration Project

The restoration of a Grey Box Woodland community at Mount Cottrell to link two important remnants, Pinkerton Forest and Bushes Paddock, is really starting to take shape. In 2010, the land owners, Western Water engaged Greening Australia (GA) to develop a land management plan for the 30 hectare block situated between these two beautiful remnant sites.

Since this time, GA has worked with Western Water and the enthusiastic local friends group, headed by Frances Overmars and Daryl Akers, to transform this former 'sludge paddock' into what you see today (see image below). A further 3 hectares is planned to be sown in spring this year.

Whilst there is still lots to be done to get the area back to its former pre-European glory; the results so far leave little doubt that a true link will be achieved in the not too distant future.

2011 and 2012 seedling sites (approx. 2 hectares)

2013 seeding site ready to be sown in August (approx. 3 hectares)

VicRoads – *Leucochrysum albicans var. tricolor* (Hoary Sunray) Rehabilitation Project

This project, funded by VicRoads to rehabilitate approximately 2.5 hectares of Plains Grassland (EVC 132) at Duverney on the Hamilton Highway (5kms west of Cressy), aims to expand the range of the endangered (EPBC Act & FFG Act) *Leucochrysum albicans* subsp. *albicans* var. *tricolor* (Hoary Sunray). Based on soil tests looking at weed profiles and nutrient data, preparation of the site involved scalping two areas to a depth of approximately 100mm. A number of non-indigenous trees were also removed from the site, as well as significant weed control targeting the *Melaleuca decussata* (Cross Leaf Honey Myrtle). The site will be sown using seed grown and collected by David Franklin.

Removing the trees from site

Scalping the site in preparation for sowing in August this year

A biomass reduction burn at 'Allura' grassland reserve, Truganina – May 2013

Allura Truganina – Grassland Management

Greening Australia on behalf of Stockland, are managing an 18 hectare grassland reserve at Truganina. An important component of this management is to promote plant diversity and ecological health by controlling biomass; burning is an effective way to achieve this. In early May 2013, Greening Australia conducted an ecological burn at the site, targeting the northern section and burning approximately 10 hectares. Another burn in spring of this year is planned for the southern section of the reserve. To ensure the best possible outcomes for the grassland and the native animals that utilise the area it is vital that these burns are followed up by a comprehensive weed and vermin control program.

For more pictures of the Allura burn visit Greening Australia's website:
www.greeningaustralia.org.au/community/vic

Southern Farming Systems – Grassland Demonstration Sites

In 2010, Greening Australia were approached by Southern Farming Systems (SFS) to establish three demonstration plots on SFS trial sites around western Victoria at Inverleigh, Lake Bolac and Dunkeld. The aims of this initiative are to educate and inform land managers about the importance of grasslands on and around their properties; and the associated positive benefits to farming systems, especially in the area of integrated pest management. These sites are establishing well and are worth viewing at the next SFS Field Day.

Check their website for further information of upcoming events: www.sfs.org.au

Lake Bolac – a good cover of grasses and herbs

Calocephalus citreus (Lemon Beauty Heads) at Lake Bolac

Western Highway Duplication Project

Jess Gardner
H141 Wimmera Project Officer
Greening Australia (Victoria)

Right: Stay alert for *Disa bracteata* (African Weed Orchid) in Spring. Sets seed late spring, and bulbs must be dug out and removed from site

Photo Source: www.weeds.org.au

The Western Highway Duplication between Ballarat and Beaufort is progressing well, and the proposed 4 hectare site for Plains Grassland re-establishment will be prepared for seeding later in 2014. This will allow us more time to ensure we have collected enough seed with as much diversity as possible, and bulk up these seed lots from our production system.

As you can see above, the project site is currently less than ideal, and a key to the project's success will be to continue liaising with the team at VicRoads to ensure they know exactly what happens at this site. As with managing any project involving multiple partners and organisations, the best outcomes will be achieved by maintaining ongoing good communication and co-operation between all parties. We're excited about this project and confident of its success. Having worked on similar projects with VicRoads and with an established relationship, everyone is aware of the complexities involved in achieving our aims.

Seed production systems were established in 2012 at David Franklin's property in Chatsworth, following field collection over the 2011/2012 summer. Field collection was again undertaken over the 2012/2013 summer, with the result that we now have seed stored for the project from over 33 different forb and grass species, and 210 boxes under seed production to bulk up these seed lots. Our production system includes the nationally endangered *Leucochrysum albicans var. tricolor* (Hoary Sunray).

Mechanical harvesting of grasses for the project has been very challenging given the seasons, and the fact that there are very few pure stands of native grasses left in the local area. David Franklin and I have also been quite alarmed at the spread of *Nassella neesiana* (Chilean Needle Grass) and *Disa bracteata* (South African Weed-Orchid). Currently we are not going near certain sites to prevent contamination, and to ensure that we ourselves are not spreading these weed species.

This situation highlights the need to ensure that clean sites are available for seed harvest, which can be achieved through established in-ground managed SPAs for grasses, or alternatively, through the management of the natural stands in a weed free condition.

Despite these challenges, we have managed to hand collect almost 30kg of Wallaby, Spear, Poa and Kangaroo grasses. David and I would appreciate hearing from any private land managers around Beaufort and surrounds (up to a 150km radius) who may be able to assist us to meet our bulk native grass requirements.

Jess Gardner's contact details located on the last page of the Grassy Groundcover Gazette.

The D.I.Y Grassland Restoration Project

David Franklin
Grassland Flora, Chatsworth, Victoria

How difficult it is to get funding to restore native grassy woodland in the Victorian Volcanic Plains. After being involved in the Grassy Groundcover Research Project with Dr Paul Gibson-Roy and Greening Australia (GA) since its inception and ongoing grassland restoration projects with GA, I was very keen to see a project occur locally in the Volcanic Plains. I know Paul had tried several times to get funding for a project through the Glenelg Hopkins Catchment Management Authority (GHCMA), but without success. I had approached the local Moyne Shire with some ideas which never came to fruition. In March 2012, in a fit of frustration, I rang the Shire environment officer. I proposed to him that if I could mobilise the local Landcare group to collect seed to restore 1 hectare of public roadside, that I would supply all my time and expertise voluntarily. I then asked for the support of the Shire, and in particular would they help with the required scalping of the site? The environment officer jumped at my proposal, and has been extremely supportive ever since! I discussed all this with Rod White and Jess Gardner of Greening Australia, and they offered to help in any way they could.

At the Woorndoo Land Protection Group meeting in early August 2012, Jess Gardner gave an overview of grassland restoration techniques, and showed examples of recent projects. We discussed what was required for this project to proceed. The Moyne Shire environment officer announced that the Shire would contribute at least $5,000 to the project. A vote confirmed unanimously that the project should go ahead. The site chosen was a section of roadside at Woorndoo, originally remnant native grassland that has been cropped for at least the past decade. It lies adjacent to high value roadside remnant grassland containing threatened species.

Over spring and summer, 16 individual volunteers collected 35 native species within a 10 km radius of the site for restoration. The volunteers were happy to be learning about the diversity and the intricacies of these local species. This involved some 70 hours of voluntary labour. In March 2013, we applied for a $10,000 Department of Sustainability and Environment (DSE) Victoria 'Community for Nature Grant'. By all accounts this proposal fitted the bill as far as project guidelines, activities and outcomes were concerned. To our bitter disappointment (and frustration), we were not successful. I thought, "What do you have to do to get funding?" Things looked grim for the project.

In late April, I had an on-site meeting with the Shire engineer and the environment officer. The engineer explained the detail and cost of the scalping. I made the Shire folk aware that the Landcare group would put in a few thousand dollars toward the project, but we needed a lot more money and that I had run out of ideas. It looked like the end, when the environment officer said, "Well you can't stop now considering all the work you have put in, I will go away and find some more money". I was amazed. It was full steam ahead!

In early May, the Moyne Shire scalped and carted away over 10,000m^3 of soil. Most went to cover over a nearby decommissioned tip site. In August we plan to monitor the site for weeds, and mulch the seed for sowing.

I think the lessons learned are - that you can achieve anything if you set your mind to it, and to never give up. You need a strong group of individuals prepared to give their time, which they will do if you explain in detail what is required and keep them informed and involved. The local Shire could see it was a community effort, and was prepared to completely support the project to which I am very grateful and wish to express my thanks.

The site being scraped

The topsoil being removed and carted offsite

Greening Australia have taken delivery of a new native seed brush harvester, thanks to the skills of our 'in house' farm engineer, David Franklin. The new harvester will be put to work this season, and will greatly increase our capacity to collect native grass seed for our grassland restoration projects around the state. Please contact Rod White (0447 585 574) to inquire about hiring the machine (together with an operator) for your next grassland project.

Seed for Endangered Ecosystem Enhancement and Development (SEEED…….)

Bindi Vanzella
Business Development Coordinator
Greening Australia (Capital Region)

The production of seed for the restoration of threatened grassland communities in NSW and the ACT is gaining a collective momentum, as evidenced by a well-attended workshop hosted at the *Australian National Botanic Gardens* (ANBG) in May. Over 50 people travelling from as far afield as the Riverina, central west and the south coast of NSW attended the one day event.

The diverse group was represented by seed collectors, seed producers, revegetation practitioners, land owners, researchers, ecologists, conservation interest groups, and State and Commonwealth government environment and training departments. This gathering of like-minded people created the perfect seedy atmosphere to learn about and share experiences, challenges, and successes associated with producing and sourcing seed for grassland restoration projects.

The day was split into four sessions. The first included presentations on the need for seed production areas (SPAs), a short history of grassland seed production in Australia, the importance of quality seed, and why every opportunity should be made to provide a diverse mix of species for a restoration project, rather than relying solely on the resilient prolific-seeding favourites!

The second session took participants on a stroll to the newly completed ANBG SPA. Speakers from the ANBG and Greening Australia presented their experiences in establishing their respective SPAs including design, construction, species selection, seed acquisition, propagation of parent plants, cultivation into beds and SPA management.

The afternoon opened with speakers from Canberra Airport, NSW Office of Environment and Heritage and Greening Australia presenting their grassland restoration stories. The presenter's reflections focused upon how seed availability affects the quantity collected along with species diversity; and how this in turn influences the planning and execution of the work.

If that wasn't enough information to take in for the day, the final session was a chance for all to participate in a Q&A activity. Open to the floor, the group brainstormed lots (I mean lots!) of ideas about the issues, risks and opportunities around the science and social networking future of seed production for grassland restoration. The task is now to work through these ideas and identify key stakeholders and maintain the momentum generated from the workshop. Watch this space!

The day was professionally filmed and the seedy highlights will be available for all to check out soon. In time we hope to progress to a web based interface. In the meantime if you would like to be added to the newly created email list created from workshop attendees please contact:
bvanzella@act.greeningaustralia.org.au

The workshop was made possible through a 12 month Australian Government *Caring for our Country* grant awarded to the Australian National Botanic Gardens in partnership with Greening Australia (Capital Region) the Centre for Australian National Biodiversity Research, CSIRO and Greening Australia. For more information about the project go to:
www.anbg.gov.au/gardens/whatson/news/spring12_story.html#caringforcountry

Although not visited as part of the workshop, Stephen Bruce presented to the group his approach to setting up the Greening Australia Seed Production Area at Aranda (ACT). With the invaluable help of volunteers, the beds have been planted with *Bulbine bulbosa* (Yellow Bulbine Lily), Leucochrysum *albicans (Hoary Sunray)* and *Dichopogon fimbriatus* (Nodding Chocolate Lily). Since January 2kg of "light and fluffy" *Leucochrysum albicans* seed has been collected by volunteers for restoration work at the Canberra Airport

A "seed" dating activity provided the perfect opportunity for some seedy discussion around the future of seed production for grassland restoration

David Taylor and Joe Mcauliffe from the ANBG present their experiences establishing and growing *Rutidosis leptorrhynchoides* (Button Wrinklewort), an endangered species of the ACT. Other species in production at the ANBG are *Lepidium ginninderense* (Ginniderra Peppercress), *Linum marginale* (Native Flax), *and Chrysocephalum apiculatum* (Common Everlasting)

Caring for Country Regional Seed Production Project:

Australian National Botanic Gardens in partnersip with Greening Australia – Capital Region, the Centre for Australian National Biodiversity Research and CSIRO

Stephen Bruce
Seedbank Manager
Greening Australia (Canberra)

The Caring for Our Country partnership project 'Producing Essential Seed for the Restoration of Threatened Grassland Communities' has progressed well since last December. Thanks to our enthusiastic volunteers, construction and planting the garden beds is complete. The construction of the raised garden beds was labour intensive and would not have been achievable without volunteers. The garden beds were selected for their durability, aesthetics and comfortable working height.

Planting began just before Christmas, with 3000 *Leucochrysum albicans* (Hoary Sunray) planted by

volunteers. Seed collection started in the first week of January 2013, and at present we have collected over 2kgs of cleaned *Leucochrysum albicans* seed. 5000 *Dichopogon fimbriatus* (Nodding Chocolate Lily), 5000 *Bulbine bulbosa* (Bulbine Lily) and 500 *Linum marginale* (Native Flax) were planted late January.

The Linum marginale succumbed to a major infestation of rust fungus in late February. Causes may have been the high density planting in the beds resulting in a lack of air circulation around the plants. When combined with rich potting mix and plenty of water this produced lush growth, an ideal situation for the fungus to occur. In comparison, the *Linum marginale* at the Australian National Botanical Gardens have been planted in an in-ground system, in single row mounds, with no signs of the rust fungus.

Other plant species that are challenging to collect seed in the wild include *Desmodium varians* (Slender Tick-trefoil), *Convolvulus erubescens* (Common Bindweed), *Glycine* spp, *Brachyscome dentata* (Lobe-seed Daisy), and *Wahlenbergia luteola* (Bronze Bluebell). Earlier this year these species were propagated, and will be planted into beds in spring, hopefully providing a bumper crop this summer!

Volunteers Malcolm Fyfe and John Fitzgerald planting *Leucochrysum albicans* in December 2012

Leucochrysum albicans (Hoary Sunray) February 2013

Completed raised garden beds at Greening Australia, Canberra

Moolapio Grassland

Candice Parker
Moolapio Project Officer
Greening Australia (Victoria)

Moolapio Ecological Burn

An ecological burn was conducted on Grassland Establishment Area 1 (GEA 1), at the *Moolapio* grasslands located on Alcoa of Australia land at Point Henry, Geelong. In order to reduce accumulated biomass regrown from the previous cut and bale undertaken two years ago, a burn was considered the best option.

A reduction in biomass will allow for inter-tussock spaces to open and enhance regeneration, particularly of native forbs which had begun to be outcompeted by the dominant grass species *Rytidosperma spp.* (Wallaby Grass). A perfect autumn day in late May gave the GGRP team an opportunity to conduct a successful one hectare burn.

Follow-up maintenance to control any regeneration of weeds will be the focus over the coming months, particularly the later months of winter and early spring. The site will also be monitored to assess how the native flora species regenerate.

Rod White igniting the grassland. Containment lines were mown around the site and wetted down before the burn commenced

The burnt Moolapio grassland

Calocephalus lacteus (Milky Beauty-heads) surviving the low intensity burn

3 weeks after the burn *Senecio quadridentatus* (Cotton Fireweed) is regenerating along with *Themeda triandra* (Kangaroo Grass)

A slideshow of pictures taken of the Moolapio grassland burn is located on Greening Australia's website:
www.greeningaustralia.org.au/index.php?nodeId=206

Moolapio Grassland Management

Recent grassland management has concentrated on reducing broadleaf weeds within the surrounding shelterbelt. *Galenia pubescens (Blanketweed)*, *Berkheya rigida* (African Thistle) and *Silybum marianum* (Variegated Thistle) were the main spray targets this season, aiming to reduce their impact on the growing shrubs and trees, and to reduce the set of seed into the grassland.

With the *Moolapio* program winding down, the 350 seed production boxes will be planted out within the grassland with the help of a dedicated group of The Gordon (TAFE) conservation and land management students.

GEA 4: A years growth on the 5 hectare sowing in 2011, showcasing a variety of species. *Leucochrysum albicans* (Hoary Sunray), *Linum marginale* (Native Flax) and *Podolepis jaceoides* (Showy Podolepis) (Photo taken: Decemeber 2013)

Convolvulus eurabescens (Common Bindweed)

Institute of Koorie Education Deakin University - Moolapio Grassland Field Trip

During February, the Moolapio grasslands were visited by 21 students from the Institute of Koorie Education studying their Bachelor of Education (Primary) with Deakin University. As part of their Ecology and the Environment subject, students gained experience in undertaking field surveys within the grassland. The students were looking at key properties of an ecosystem, particularly the biotic and abiotic components. The students had travelled from all around Australia and were fascinated with the diversity of flora found within the grasslands, as well as how the grassland had been transformed from agricultural land into Plains Grassy Woodland.

The group of students from the Institute of Koorie Education studying at Deakin University. The students travel from around Australia to attend residential days that are conducted in conjunction with their course subjects.

Below: A group of students identifying flora species within the grassland

Can we enhance degraded grasslands and grassy woodlands?

Dr Paul Gibson-Roy

Senior Restoration Ecologist

Greening Australia (NSW)

How do you go about enhancing the quality of degraded remnants? This is a vexing question that many in our sector face. Grasslands and grassy woodlands are seldom in pristine condition and land managers, landholders or community groups commonly look to improve their quality by removing or restricting weeds and/or through the enhancement of resident native populations and/or the re-introduction of native species no longer present. I've seen these situations on Sydney's Cumberland Plain, on grasslands reserves near Queanbeyan and Canberra, and at the proposed Western Grassland Reserve near Melbourne.

Twelve months ago in Victoria, the GGRP team established a study to investigate this question at their reconstructed Moolapio grassland (Point Henry, Geelong). At a time when they were seeding a large 5 ha area to a broad range of species (grasses and forbs); they also took the opportunity to over-sow the same mix/rate of forbs into an adjoining area where a grass-only sward had been established some years earlier.

The grass sward had been cut and baled prior to seeding to remove biomass and create gaps between tussocks. The over-sowing was undertaken in five large 20m x 2m plots using the GGRP seeder. This spring will mark two years since this was undertaken and at this time Candice will monitor and compare the emergence of forbs in the large 5 ha bare field area with those in the inter-tussock spaces of the grass sward.

Anecdotally it seems that forbs are emerging more clearly in the bare-field location. This may just be because they are more easily viewed in the absence of established vegetation. The regrowth of the grass sward in the over-sown study has been very vigorous and perhaps seedlings are present but not visible. Conversely it might be that this strong exclusion of light by the grass sward has restricted their germination/emergence. We'll report more on this study and outcomes in the next edition of the Grassy Groundcover Gazette. I should note that having recently managed biomass through a controlled burn in another section of the Moolapio grassland, Candice and Rod are keen to again set up an enhancement (over-sowing in this case) study, to gauge the success of re-introducing new species into areas post burns.

There are five mown plots 20m x 2m in size at Moolapio

Meanwhile, up on the Cumberland Plain (CP) to Sydney's west, we've begun to investigate this same question. With financial support from the NSW government's land development group Landcom and the University of Western Sydney (UWS), Greening Australia and UWS have teamed up to establish a study in a Cumberland Plain remnant adjoining a large new housing precinct (called The Ponds).

Cumberland Plain Woodland is listed as a critically endangered community and for this reason, Prof Charles Morris and I have designed a study which we hope will help provide information and direction for land mangers wanting to improve degraded CP remnants (which commonly have reasonable quality canopy layers, but very low diversity ground layers).

This fully replicated factorial study is investigating the effect of carbon addition (sugar), soil removal (scalping), biomass restriction (fire, cut and bale) and seed addition on the composition of degraded grassy vegetation (native/exotic). We hope it will reveal measures that can be used to lower weed loads and improve the native component. The set-up phase of the study is now complete (with wonderful assistance from Dane and Sam). Now we wait for things to happen. Interestingly we already have very strong and clear regrowth in burnt plots, much of which appears to be weeds or re-shooting tussocks (primarily *Paspalum*). However, spring/summer will give a better indication of treatment effects, and I will have more to report to readers at this time.

These two studies highlight some of the work GA is currently undertaking in this area, including Graham Fifield and the GA Capital team's '*Canberra Airport Grassland Enhancement Project*', who's article was included in the December edition of the Grassy Groundcover Gazette. I'm sure Graham will have more to contribute to this discussion in coming editions.

The question posed in the title of this section remains, but I'm sure that these and other projects across south eastern Australia will continue to provide ways forward.

Study site

Sam and Kym seeding a plot

Seed Production for Cumberland Plain Restoration

Dr Paul Gibson-Roy
Senior Restoration Ecologist
Greening Australia (NSW)

Like many situations across Australia, the restoration or enhancement of the nationally threatened Cumberland Plain (CP) Grassy Woodland is limited by a critical lack of seed. Most CP remnants are small and fragmented, and populations are almost inevitably small and likely to be genetically limited. There is barely enough seed resource to produce plants for restoration (not the most cost efficient technique for field scale programs) let-alone direct seeding, which we know from the Victorian

GGRP experience is a successful and cost effective means to restoring biodiverse vegetation.

For this reason GANSW has begun development of a seed production facility at the University of Western Sydney Richmond (the old Hawkesbury Agricultural College). In addition to investment of our own resources, we've had wonderful support from the NSW Office of Environment and Heritage (and Jonathon Saunders) in setting this up. While our long term goals envisage a larger and more sophisticated complex, I'm really pleased with our progress to-date.

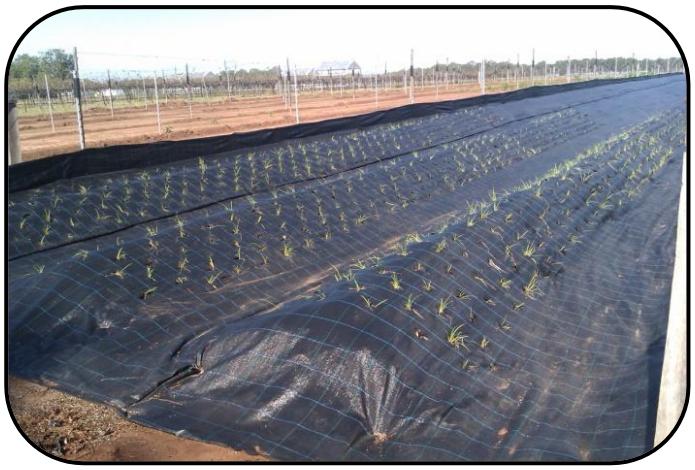
In short, we've managed to establish production populations from a large number of understorey species of the Cumberland Plain, most of which are seldom, if ever, available for restoration programs. This was a large task in itself and my thanks go to Sam, Tracey and GA's Richmond Nursery crew for their wonderful assistance with collection and propagation activities.

We've also managed to get in-ground production infrastructure ready for planting over coming months. This involved great contributions from our Oxley Park work crews (Ben, Chris, Paul, Josh) and the members of the Derrubbin Local Aboriginal Land Council trainee rangers program lead by GA's Dave Warren (these guys have also assisted with seed collection). While there is no one correct way to set up a SPA (in my opinion at least), I'm really pleased with our current mix of containerised, and in-ground approaches.

All this can, and I hope, will be improved over time. But as most readers know, this costs money and unless there is a market for seed/restoration, and by this I mean individuals, businesses or agencies, who are willing to pay for the true costs of undertaking ecological restoration, then all our aspirations for a structured and systematic seed supply and restoration industry in this region (and also throughout Australia) will ultimately come to nought.

So, on that note I implore our readers to continue to agitate decision makers in our funding agencies to focus less on grand, under resourced and therefore unrealistic landscape restoration targets, but rather provide the industry with legitimate support needed for localised improvements in seed and restoration infrastructure, which will be the key to achieving meaningful restoration outcomes.

Preparing the site for an in-ground seed production area



The in-gound seed production area finished and planted

Want to know more about the GGRP?

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