



RIAWA

Revegetation Industry Association of WA

Quality in Revegetation & Rehabilitation

Standards • Education • Involvement • Improvement



newsletter Aug 2007



## EDITORIAL

### **We trust you have had a successful & busy year in the revegetation and natural resource management sector.**

Just a quick note from your Committee to let you know of key outcomes, upcoming events, particularly the RIAWA annual general meeting, and a call for nominations to the RIAWA Committee.

The RIAWA Committee have been working on several key issues throughout the year, including:

Scoping potential resources for funding a full time RIAWA Development Officer. RIAWA is looking to accelerate its activities to meet the demand for industry development, professional development & strengthening of networks and partnerships.

Having achieved several initial key outcomes, including establishing a core membership of nearly 100 members, RIAWA's priority short-term objective is to obtain the resources to employ a full time Development Officer to fast-track the implementation of our Action Plan.

The increased momentum that the revegetation industry is currently experiencing has seen RIAWA respond to pressing industry issues. RIAWA has recently met with various state agencies and NRM groups to work on a number of different matters including:

- Contract & tender specifications (Main Roads WA)
- Seed licensing & regulation (Dept. Of Environment & Conservation)
- Representation on the Primary Industry Training Council)
- Working with the Florabank team to discuss the outcomes of the relaunch of the Florabank project
- Delivering our successful Revegetation Planning seminar which was attended by 120 participants.

RIAWA was successful in obtaining a grant from the Exchange Incentive Fund program to assist with the delivery of the Revegetation Planning Seminar.

Some of the focus areas for RIAWA in the coming 12 months will include:

- Reviewing & updating RIAWA's Action Plan (including short & long-term planning & resourcing)
- Liasing with RIAWA members to determine members and industry concerns / issues.
- Working with the Florabank team to discuss the delivery of a seed workshop
- Continue dialogue with key stakeholders including State agencies to identify and progress industry issues
- Improving communication of research outcomes
- Development & delivery of other training opportunities

Please note that the excellent frog and possum photos in this edition are printed with the kind permission of Johnny Prefumo – The Frog Doctor.

Keep the rain coming!

### The Editors

RIAWA Management Committee  
Chairperson – Geoff Cockerton  
Vice Chairperson – Bernard McLean  
Treasurer – Mark Ochtman  
Secretary – Luke Sweedman

Committee Members  
Julia Murphy, David Venning,  
Tony Webster, Adrian Colley  
Development/Membership Officer  
Sandra Maynard

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Newsletter Editors  
David Venning, Luke Sweedman



## IMPORTANT NEWS!

### RIAWA Industry Meetings

**The management committee has recently been busy setting up meetings with important industry groups and agencies to provide benefits through improved communication and the opportunity to have input into key industry decision making.**

### Department of Environment and Conservation (DEC)

A meeting was held in May at the DEC headquarters in Kensington attended by Geoff Cockerton, Julia Murphy and David Venning from RIAWA together with Ken Atkins, David Mell, Conor O'Neil, Norm Press and Kevin Morrison representing DEC.

RIAWA had initiated the meeting to discuss a perceived role in facilitating discussion between the parties about relevant industry matters on a regular basis.

Issues and topics discussed included:

- Role of DEC in managing licensing and issuing of 727 permits
- RIAWA assistance in preparation of a guide to licensing and seed collection. This will assist in meeting the perceived requirements under the forthcoming Biodiversity Conservation Act
- License application process delays
- 727 application process. Delays, validity periods and duplication of printed material
- Consolidated seed collection return information
- Collections from conservation estates
- Seed salvaging operations on land prior to clearing for development
- Seed collection training

Discussions lead to a better understanding of the processes and requirements of both parties and some matters were resolved. Both parties have agreed to report and respond on outstanding issues in time for the next meeting.

### Main Roads Western Australia (MRWA)

Two meetings have been held with MRWA, the first in May, and followed by another in July. These meetings have been set up to discuss industry issues particularly in respect to tender specifications.

There has been concern in the industry for a number of years about the lack of involvement of expert revegetation practitioners, from an early stage, in the development of appropriate specifications for tenders. By setting up a dialogue with MRWA it is hoped that there can be more input from RIAWA members and practitioners generally to improve project outcomes.

Matters that have been discussed include:

- Maintenance budgeting
- Revegetation budget allocations
- Definition of 'Revegetation Expertise'
- Provenance seed collections
- Spraying contractors – relevant experience requirements
- Landscape strategy planning
- Completion criteria
- Educational meetings with pre-qualified contractors
- Cadet training

The next meeting is planned for August.

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## IMPORTANT NEWS! (Continued)

### Florabank

The Florabank project has been put into action again following federal funding. An Industry Consultation Workshop was held at Bold Park on 24th May, and was attended by Dave Carr and Penny Atkinson from Florabank in Canberra, together with other industry reps from across Australia. RIAWA was represented by David Venning and Peter Luscombe. The main thrust of the workshop examined opportunities for collaboration of Florabank with the seed sector.

Topics discussed included:

- Improved access to native seed information and science
- Best practice guidelines
- Species selector key which utilising Lucid software
- Best practice seed collection and provenance key
- Vegetation management selector
- Site descriptor tool
- Training in native seed management
- Quality assurance and certification
- Facilitating increased supply
- Industry marketing
- Access to policymakers

Julia Murphy from RIAWA recently attended a Florabank pilot seed training course in Canberra as a precursor to a national schedule. We shall be reporting on the course in the next issue.

Florabank is seeking to capitalise on its current opportunity to identify a long term mechanism for seed industry collaboration.



## RIAWA COMMITTEE NOMINATIONS

### DO YOU HAVE?

- ✔ PASSION FOR YOUR JOB AND THE NATURAL ENVIRONMENT & RESOURCE SECTORS.
- ✔ SKILLS & EXPERIENCE TO PROGRESS YOUR REVEGETATION INDUSTRY.

YES! THEN WE ENCOURAGE YOU TO NOMINATE FOR A RIAWA COMMITTEE POSITION.

#### Why be on the Committee?

As a Committee member you have the opportunity to help guide and strengthen the development & progression of the Revegetation Industry in Western Australia.

In order to achieve these outcomes & ensure breadth of representation of the industry; RIAWA are calling for nominations for the RIAWA Management Committee.

#### What do the Committee do?

- Develop & implement the key objectives of our Action Plan
- Meet a minimum of four times a year
- Regularly communicate via email, meetings & phone
- Attend meetings as required with key agencies and organisations

#### Who is the Committee?

The Committee is made up of eight positions including the current officer bearers:

- Chairman (Geoff Cockerton)
- Vice Chair (Bernard McLean)
- Secretary (Luke Sweedman)
- Treasurer (Mark Ochtman)
- Committee members. (Adrian Colley, David Venning, Danielle Risbey and Julia Murphy)
- RIAWA employs a part time Development Officer (Sandra Maynard) to administer the Associations business

RIAWA has members representing

- private enterprise
- state and local government agencies
- natural resource management organisations & professionals
- non-government organisations
- student and interested individual members

We are looking for representation on our Committee from all sectors of the industry, including:

- revegetation operators
- mining sector
- native nurseries / plant propagators
- seed collectors / suppliers
- earthworks / surface cultivators
- translocation operators
- weed managers
- environmental consultancies
- landscape architects
- botanists, zoologists / ecologists
- industry regulators and decision makers
- anyone with an interest in the environment and it's restoration

#### Who do I Call?

If you are interested in becoming a RIAWA Committee member contact Sandra Maynard. Details are on the membership application in this newsletter. Nominations may be made up to and including the date of the AGM in September.

On behalf of the RIAWA Committee, we welcome your involvement in our association, and look forward to a positive future in the revegetation industry in W.A.



## WHY COLLECT SEED?

**The primary reasons for collecting material and especially what the end use of that material is for, must be clearly known and understood by the collector as they will influence the degree and rigour of sampling.**

The storage conditions and the sampling strategies used for collecting seed of rare species are different to those applied to more common species. Collectors might be collecting material needed for restoring degraded lands, for the conservation of genetic diversity of species and populations considered endangered or threatened.

Equally, they might be harvesting seed from cultivated and wild sources for commercial uses, including forestry, horticulture and sale to the general public. They might be seeking material for display or study purposes in botanic gardens or other research institutions.

Collecting seeds from appropriate plants can ensure the selection of notable forms, and those with inherently desirable characteristics – for example, selecting for salt tolerance.

In the majority of cases, seeds provide a good representation of a population and the inherent strengths and subtleties of a species. However, propagation via seed in a nursery may not exert the same natural selection pressures on a seed batch as in the wild. Research is needed to establish the conditions for maintaining natural diversity from a seed lot.

It must be remembered that not all characteristics are passed on by seeds. Some species of variable flower colour will not produce true to type from seeds. Some forms, such as a prostrate habit, can be of an environmental origin, rather than an inheritable characteristic. And the low viability of some species may limit propagation and storage potential. Deep, intractable seed dormancy may limit or preclude germination.

### General Principles for Collecting Seeds

Some principles are common to all types of collecting, regardless of the sampling strategies. Correct horticultural technique is essential when collecting seeds to ensure the ongoing health and vigour of the population. If the resource is well managed and is present in reasonable numbers, seeds may be harvested without adverse impacts on the sustainability of the population.

Plants should be assessed as to the availability of material and whether collecting is likely to place the population under stress. If the population is wilted, diseased or unhealthy in appearance, it should be left alone.

Collectors should try to leave the population in as good a condition as when they arrive. Shrubs should be pruned rather than disfiguring or lopping.

There are licensing requirements in some Australian states. These may recommend the collection of only 20% of the available seeds from a population at any one time. This is intended as a general guide to help ensure that collecting does not unduly impact on the long-term survival of the population.

Plants should be cut with sharp tools to ensure that wounds are kept to a minimum and to limit the possibilities for fungal damage and facilitating its spread. It is a good practice to disinfect tools between populations in known disease risk areas.

The collection of seeds should be done randomly and be representative with respect to ecological variations within the site. For example, if part of a population is growing in a swamp, it may be better to make a separate, representative collection.

Unusual forms within a population should be treated as individual collections if this feature is considered noteworthy.

Seeds can be gathered from beneath many plants if the seed has matured and dehisced. However, care should be taken as predation can rapidly take place when mature seeds are available to predators.

Cut plant material should be placed in calico, hessian or paper bags and tied securely. Avoid the use of plastic bags as they can lead to uneven drying and condensation problems. Large plastic bins are perfect to place cut material in as the collection is made. These are easily moved around the population and the contents can then be tipped into one or several bags to be processed. These are also used to knock seed into as you move through a population, especially where the seeds are balanced on the terminal branchlets, for example in the Asteraceae family the genera of *Olearia* and *Cratystylis*.

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## WHY COLLECT SEED? (Continued)

Drop sheets are also very useful for placing out closely around the base of shrubs to collect seeds. The best of these are light canvas sheets used by painters. These are essential for collecting seeds from many Acacias.

All collections should be labelled with at least a unique field number and preferably a field number, date and name of the species.

Material that is damp should be packed more loosely and placed in a drying environment as soon as possible.

Wear appropriate protective clothing and eye protection. Some groups, such as *Grevilleas* can produce allergic reactions.

Use a pouch to hold secateurs to keep the hands free. Bags can be tucked into a belt around the waist as a temporary storage.

Collectors should be careful not to mix the species when making a collection. A dense, pure stand is ideal to keep the seed lot free of other species. It is important to focus on the species the collector is targeting and to ensure you know what it looks like when seeding. Beware collecting in areas where there are weed species, which may be inadvertently collected as well.

### Field Assessment

A field assessment is critical for making good collections. To determine whether seeds should be collected, the following must be considered:

Are the seeds well formed and turgid? If they contain moisture and appear plump, rather than shrivelled then they are probably good. By simply cutting the seed in half is an easy way of making a judgement. Use a sharp blade to cut the seed.

Are the persistent fruits from genera such as *Allocasuarina*, *Melaleuca*, *Calothamnus* and other Myrtaceae shrubs older than the last flowering time? For many of these shrubs it is preferable to select material matured from previous seasons. These fruits are usually located towards the centre of the shrub. The capsules can be cut with secateurs to check for the existence of seeds.

Is there any evidence of insect damage, such as webbing, frass or holes in the fruits or seeds? If so, it may be necessary to cut the seeds to determine the quality of the material.

Are the seeds dehiscing naturally? Seeds should be dry in appearance and in many cases easily displaced by hand. For example, *Thryptomene* and *Verticordia* seeds should be easily dislodged when fully ripe. Alternatively, seeds may be fluffy and fall easily from the plant or be blown off by the wind. Wind dispersed species include *Gomphrena* spp. and many of the Asteraceae, including the common everlastings (*Rhodanthe* spp).

Finally, is the timing right? For example, trying to collect *Acacias*, *Grevilleas* and many other genera out of season may provide you with a small amount of seed, but that which is left over from the main seeding event some time ago. In temperate Australia, many *Grevillea* species flower in late winter through to summer. Knowing when the plants flowered means you can estimate when the seed is likely to be ready. Collecting *Grevilleas* in areas of high speciation (such as throughout the Murchison sand plains of Western Australia) requires some annual plants will continue to produce seeds even though the plant has been removed from the ground. This is true of many succulent annuals for example, *Calandrinia* spp. and *Portulaca* spp. This is also true of the short-lived *Lobelia*, *Trianthema*, *Gomphrena* and some *Ptilotus* species.



17. V080 planning what to target. Geita, Tanzania.

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## WHY COLLECT SEED? (Continued)

### Planning a Collection Trip

Thorough research and planning before leaving on a trip is crucial. Field-based collecting can be an expensive undertaking and it is important to get the maximum benefit from fieldwork. A well-organised program with realistic targets is the best way of using time effectively. With clear lists of target species, knowing their locations, and an awareness of seeding times, the collector stands a good chance of a successful outcome. Collecting may require specialist equipment, such as pole-pruners or a GPS (Global Positioning System), which most now find mandatory. If you are travelling into remote areas you may need a satellite phone to ensure that you are prepared in the case of an accident. If travelling onto certain land collectors may need a special permit. Locations may require accurate maps and collectors may require meteorological information to check weather forecasts. Field books and all collecting gear needs to be checked prior to leaving to ensure everything is in good working order.

Some points for seed collectors to consider:

- Stay focused on the aims and intentions of the collecting trip.
- Is the timing of collection material right for the species to be collected and do you have accurate locations of good populations?
- Do you have good knowledge of the target species and what it looks like?
- Do you have the right vehicle and is it fitted out to provide safe, comfortable travel?
- Do you have the correct licenses for collecting and to pass through designated lands, for example, aboriginal lands?
- Consider your equipment needs: bags, secateurs, pole-pruners, collection books, plant reference books, tags and safety gear.
- Keep goals about how much material you need so as not to waste time collecting too much or too little.
- Make clear judgements about the material, if it's not mature, then leave it for a later time.

### Considerations Prior to Collecting

Successful collection of seeds is largely based on a good general knowledge of the species accrued over a number of years. Some seeds are easy to collect and are available for collection at any time of the year for example many *Eucalyptus* species, particularly in the southern parts of Australia. Conversely, other species are annuals or ephemeral. These are plants which germinate, develop, flower and seed over a period of less than 12 months. For example, some everlasting daisies such as the pink everlasting (*Rhodanthe chlorocephala* ssp. *rosea*) can complete their life cycle in as little as four months. For many of these species there is only a small window in which to make a good collection. In fact, it can be so precise in some species that collectors must know to the day when the seeds will be ready. Perennial shrubs and trees generally have more reliable periods over which seed is available and it is easier to set guidelines for collecting times. Many plants have seeds retained on the plant and therefore seeds can be collected over extended periods for example many shrubs of the Myrtaceae family such as the *Melaleucas*. Some plants such as *Acacias* or *Kennedias* dehisce over a number of weeks, meaning collecting times can be staggered to suit a program. Many species will set very poor seeds if the rainfall throughout the growing season has been inadequate. Woody shrubs, such as *Acacias* can abort their seeds if conditions are bad. Thus, general collecting times can be set for a species but given the vagaries and seasonal variation throughout Australia these must be fairly flexible. Maintaining long-term observations of seeds and variations in seed set can result in reasonable seed yields, even in poor seasons.

The collecting season is often based upon a number of issues, such as what species are required, when these species are flowering, the areas in which these species grow and the local climatic conditions (particularly rainfall and temperature). Visiting an area a number of times throughout the collecting season allows fine-tuning of collection times. On the first visit, when the plants are in flower, herbarium specimens can be taken for species identification. The next site visit may be to collect seeds from those species that set seeds. Finally a third visit may be made in summer to collect seeds from late fruiting species. Each time you visit an area you continue to build a picture of what different species are doing at different times of the year. This develops skills in observation and timing and increases the chances of making a successful collection.



## SEED GRADING

The native seed industry is reliant on a high degree of self-regulation with respect to seed quality standards. Historically the industry has an accepted dual grading of seed: “Retail” or “Pure Seed” grade and “Revegetation” or “Direct Seeding” grade. “Pure Seed” grade seed is highly purified, contains a high proportion of viable and/or germinable seed and little non-seed material. Revegetation Grade material contains lower amounts of seed and has a high proportion of non-seed material. Seed lots of the two highly differing quality standards are priced accordingly.

The Revegetation Industry Association is currently working on establishing specific Industry seed quality / grading standards. Once these have been finalised all members will be expected to adhere to these standards. Adherence to these standards will allow end-users of native seeds to better gauge the quality and therefore the cost-benefit per unit weight of seed they are offered in seed supply tenders.

### Pure Seed Grade

This is seed which is processed for sale into the general market place and is cleaned to the best possible standard. Some seed species which are sold with the chaff intact (e.g. *Eucalyptus*, *Melaleuca*) may be further refined to a pure state (seed only) to suit their use in vacuum seeding machines etc.

### Seeding Grade

This is seed which is left with some components of inert non-seed matter within the seed lot after processing. This may be for two reasons:

- Cost effectiveness of additional time and effort for cleaning is not warranted;
- Equipment or techniques to clean to a purer state are not available/utilised;
- Seed is to be used in a direct seeding project and a high level of purity is not required.

### Purity

Purity of seed refers to the relative amounts of pure seed and inert/extraneous matter within a batch after processing. There are some species where cleaning to a completely pure state is not possible with current market equipment (e.g. *Pericalymma*, *Hypocalymma*, *Agonis*, *Conospermum*).

Levels of purity of the same species will always differ from batch to batch and between different suppliers. This will firstly be affected by the collection method utilised and the type of inert matter contained in the batch. In addition, cleaning is a subjective process and is limited by equipment available and individual decision making and client requirements.

### Seed Counts

Each season a plant may produce seed which is directly affected by the local environmental conditions in which the plant grows (weather, pollination rates, predation etc.). The amount and individual size of seed may also vary according to local parameters, particularly provenance issues, and subsequently a collector can never accurately predict how much, in quantity and weight, a particular plant or stand of plants will produce. This, of course, also influences the number of seeds per gram from batch to batch of the same species over time.

### Seed Mixes

When purchasing seed it is very important to check on exactly what you are buying in terms of numbers of viable seeds per gram.

It is not uncommon for cheap seed lots, when investigated, to be shown to have low viable seed counts with a high proportion of non-seed material. This has been demonstrated on numerous occasions to the embarrassment of end users.

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## SEED GRADING (Continued)

### Value for Money – Know what you are Buying

A cheaper mix may cost you less initially but could mean fewer seeds are supplied per dollar expended, lead to problems with establishment rates down the track and on going, additional expense in remediation costs.

The many and varied influences on successful seed establishment mean that there are no end of 'legitimate' excuses why species are not represented in a revegetation package one to two years after seeding. Excuses such as 'poor rainfall patterns' are often used to mask the poor results of a poor seed mix supplied initially. WA has dozens of examples of less than desirable results in rehabilitation due to numerous factors, one of which can be poor seed quality.

Best practice would dictate that when tenders for seed supply are called, that the quality of the seed lot (purity and level of processing applied) is stipulated so that the persons reviewing the offers of supply can compare like with like. It is, of course, very important to check seed lots upon supply for compliance with the tendered specification.

## PRIMARY INDUSTRY TRAINING COUNCIL REPRESENTATIVE

**Sandra Maynard has been invited on to the Primary Industry Training Council, to represent the conservation & land management section, through RIAWA.**

The PITC represents the agriculture, horticulture and all rural and related formal training sectors. Its role is to provide input from each area of industry regarding formal training needs, such as in the TAFE system. This will provide an opportunity for any interested parties to provide feed back on topics related to bush regeneration and revegetation courses, so please feel free to contact Sandra with any relevant issues.



## DANIELLE RISBEY, RIAWA COMMITTEE MEMBER

Danielle completed a B.Sc. (Hons) in Biological Sciences at Murdoch University in 1991 and a PhD titled “The Impact of Cats and Foxes on Small Terrestrial Vertebrates and the Control of Feral Cats at Heirisson Prong, Western Australia” in 2000. Whilst living in Kalgoorlie, she applied the principle “when in Rome do as the Romans do” and commenced working in the mining industry as a consultant in 2000. This experience provided a good stepping stone to becoming an Environmental Officer with the Kalgoorlie office of the Department of Mineral and Petroleum Resources (now Department of Industry and Resources, DoIR) in April 2002.



During her time with DoIR, she has gained experience in the assessment of exploration and mining proposals and conducting inspections of a range of mining operations including gold, nickel, iron ore, sand, salt, gypsum, coal and mineral sands. Danielle enjoys the diversity of working with the DoIR and was the Co-ordinator of DoIR’s Golden Gecko Awards in 2004 -2005 and was the Minerals Branch representative on the Assessment Panel for the Awards in 2006. “Being on the Golden Gecko panel was a rewarding experience and gave me the opportunity to see a wide range of sites in Western Australia including petroleum projects. It was encouraging to see so many companies striving for excellence.”

Danielle relocated to DoIR’s head office in East Perth in 2005 and became a Senior Environmental Officer in 2006. She is currently involved with the regulation of mining in the Ravensthorpe, Yilgarn, Collie and Pilbara areas and is co-ordinating the review of the Environment Division’s Guidelines for Mining Proposals. She has a genuine interest in mine site rehabilitation and recently became a RIAWA Committee member.

Danielle can be contacted via [danielle.risbey@doir.wa.gov.au](mailto:danielle.risbey@doir.wa.gov.au)

## Membership

We are actively seeking your support and membership of this association to help it achieve its full potential. Various membership and sponsorship options are available with the details and a membership application form on the back of this brochure.

It is the support and co-operation of members that will determine how effective the association will be.

### Membership Categories

- Individual  
\$100 per annum
- Corporate  
\$500 per annum. Companies employing people within the industry. One person is designated as a voting member.
- Non-profit organisation or government agency  
\$100 per annum. One designated person has voting rights.
- Associate member  
\$50 per annum. No voting rights.
- Student member  
\$20 per annum. No voting rights.

For further information, please contact

Sandra Maynard  
Development Officer  
Phone 9361 6638  
Email [hortitalk@bigpond.com](mailto:hortitalk@bigpond.com)  
Address 150 Roberts Rd  
Rivervale WA 6103

## Application for Membership

Membership type: \_\_\_\_\_

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Position - Occupation: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Mobile: \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Educational qualifications: \_\_\_\_\_

Relevant experience: \_\_\_\_\_

Company Profile: \_\_\_\_\_

Payment Details

- Amount owing: \_\_\_\_\_
- Payment method:
  - Cheque
  - Direct deposit
  - Cash
- RIAWA bank details:  
Bank West Pac  
BSB 036 078  
Account No 287 608

• Signature of applicant: \_\_\_\_\_

Please return with payment to  
Sandra Maynard - Development Officer  
150 Roberts Rd, Rivervale, WA 6103



**RIAWA**

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