Welcome to our first newsletter for 2015, which we hope you will find interesting, relevant and informative. We are always interested to receive feedback about content. We also hope you will talk to friends and neighbours about RFA’s mission and if they are not members, explain why joining is important and relevant, particularly if they are interested and/or directly involved in biodiversity conservation and/or primary industry.

While on the subject of membership, it continues to surprise the RFA Committee and disappoint me as chairman that so few people, especially landholders, are members. Organisations such as ours thrive or do not survive on the level of support they receive. Given the fact that rabbits affect the land health of so much of our country, why can we not attract more members to support what we do in encouraging research into rabbit management and raising awareness about the risks and benefits? A Committee member made the point recently that so much effort and money goes into excellent work on tree planting and vegetation establishment. Yet the results can be so much better (and in fact the trees and vegetation may well re-establish itself) if the grazing impact of rabbits is removed beforehand.

Ironically, many people know this fact, but that does not regularly translate into on-ground action.

A relatively small entity such as RFA does what it can to influence and inform the community. One of the areas that the Committee intends to work on is to update and make more useful the RFA website. While we have had a website for several years, it has been static and much information on it is out of date. It also does not provide simple means for the user to find out more information, including what is involved in becoming a member. We want to improve various aspects of the website and make it more dynamic. The Committee has allocated some funding to achieve this outcome and Committee member Dr Bruce Munday has generously agreed to advise on how to do so.

Newsletter readers would previously have read about the rabbit genomics work of Amy Ianella, a PhD student at the University of Adelaide who receives funding support from RFA. This work is continuing and we have recently received an update report, some details of which are included in this newsletter. As stated here before, it is encouraging to see a young scientist get involved in this area of research and may there be more!

We still remain keen to support Dr Nina Schwensow over three years with her research project to understand the role of flies in RHD transmission. We understand that Nina still needs to find more private sector sponsorship to qualify for a research grant from the Australian Research Council. We are doing what we can to assist that process.

Recent wildfires in SE Australia over this summer have reinforced our interest in supporting research into post fire regeneration of native vegetation and the impact of rabbits on the process of regeneration. We continue to seek interest from potential proponents to work in this area. The question about the relationship between feral...
What’s happened since the first quolls were released into the Flinders?

- The Western Quoll restoration project is based on a partnership between the Foundation for Australia’s Most Endangered species (FAME), the South Australian Department of Environment, Water and Natural Resources (DEWNR) and the Western Australian Department of Parks and Wildlife (DPaW) and is supported by the Foundation for Rabbit Free Australia.

- During April and May 2014, 41 Western Quoll or Idnya* (21 females and 20 males) were captured in WA then transported to SA and released into the Flinders Ranges National Park after an absence of more than 150 years. Quolls translocated were chosen to be at optimal breeding age i.e. in their first year of life.

- Western Quoll breeding season begins in April and can last for several months. Translocated quolls were fitted with radio collars for tracking purposes. Animals were trapped and checked regularly in the early stages, and their movements observed and documented. The monitoring team observed early breeding behaviour almost immediately. Within weeks they were overjoyed to observe tiny baby quolls in several pouches. Once the presence of babies was observed capture of females was stopped to avoid any loss of young due to stress.

- Denning (deposit of baby quolls by the mother into the nest or den when they become too big for the pouch) occurred between June and August. A number of juvenile quolls were sighted on remote cameras at den sites in October and November. Up to four juveniles were recorded at individual den site cameras, wrestling, exploring and venturing out of their denning burrows. Both burrows and tree hollows were used as den sites by female Idnya.

- Radiotracking data indicated the loss of at least 13 of the 41 Idnya released, 11 due to cat predation. Eleven of the 12 known surviving females were recorded with pouch young between June and October. Based on trapping rates and observations, it is believed that at least 60 young were produced and the survival rate of those young is better than 50%.

- Trapping efforts in December captured 10 new subadult Idnya and also recaptured 12 of the original release animals. Results are encouraging and suggest conditions are suitable for Idnya re-establishment in the park. All adult females captured had large postlactating teats suggesting that they had successfully raised young.

- Feral cats are without doubt the biggest threat to quoll survival. However all mortalities occurred within Wilpena Pound near the creek and the resort, not in the rugged country further out. Originally it was thought that survival would be most likely where food and water was most plentiful i.e. near the creek. We now know that food resources are not an issue. More importantly, quolls can defend themselves and escape predators more successfully in rugged country with more places to hide.

- Quolls appear to have a varied diet. Stomach contents of deceased Idnya and scats of the living show a varied diet that includes insects, carrion, parrot feather and rabbit fur. The toe nails of adult rabbits have also been found in quoll scats, indicating that adult quolls are targeting rabbits of all sizes. This is great news for those of us hoping that quolls will have an impact on the rabbit population.

- Based on a successful first year, with the majority of quolls and their young surviving, approval has been given to translocate a second batch of quolls from WA in 2015.

*Idnya is the Adnyamathanha name for the Western Quoll. Idnya is a totem of the Adnyamathanha people of the

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*Peter Kay and Mel Jenson*  
Collaring a juvenile
Rabbits have been such a presence in Australia, almost since European settlement, that it is perhaps difficult to imagine what Australia might have looked like without them. The great ‘bounce back’ was in the ‘50s when ‘myxo’ decimated populations right across the country. That’s 60 years ago! Some forty years later ‘calici’ appeared as the next ‘miracle’ just as rabbits might have been getting the upper hand again. Almost by definition, only post-war baby boomers and their predecessors would have had any first-hand experience of when rabbits literally dominated our landscapes.

Rabbits and the calicivirus: Do genes really matter?

The idea of this project is to determine how much impact a rabbit’s genes (eg calicivirus resistance genes) have on its survival, as compared to environmental factors like how big its warren is or how much food is around, or even what time of year the rabbit is born.

To do this I have been collecting little bits of ear tissue from all of the wild rabbits at our study site throughout 2014, and taking them back to the lab to extract and sequence DNA from the samples.

Right now I’m in the middle of sequencing the first 300 rabbits. Next we can use the DNA sequences to figure out how the rabbits are related to each other and build a giant family tree of all the rabbit families on the site.

If rabbit genes are having a big impact on survival then we’d expect that some families (the ones with good genes) would have a much higher survival rate and successfully raise more offspring than other families in the same location. We’ll find out if this is the case or not when we get our results in a few months time — stay tuned!
Anti-Rabbit Roundup

Introducing........

New Rabbit Management Facilitator: Michael Reid

The IA CRC welcomes Michael Reid who recently took up the position of national Rabbit Facilitator, based with the Department of Economic Development, Wodonga, Victoria. Mike has valuable experience in supporting community-led action on invasive species through his highly regarded Victorian Blackberry Taskforce. Mike has also been involved in extension research, science strategy and more recently as a policy analyst. He is passionate about how communities can take greater control over their future and the supporting role of community and government institutions to support community-led rabbit management.

New Committee Member: Peter Day

Joining the committee of the Foundation for Rabbit Free Australia is a bit like turning full circle for new member, Peter Day. He, along with Nicholas Newland and David Moyle, was involved in the establishment of the pre-cursor to the Foundation in the early 1990s, while working as the Natural Resources Executive Officer for the South Australian Farmers Federation.

In the intervening years he has managed a small consultancy firm, ‘Peter R Day Resource Strategies’, offering services in natural resource management planning, research design and coordination, and communication; usually operating at a regional or national scale. He regularly works at the interface between agriculture and the environment, and has been engaged by most commodity Research & Development Corporations, the former Land & Water Australia, regional Natural Resource Management bodies across Australia, and the CSIRO.

With qualifications in science, natural resources and business administration, Peter began his career with the South Australian Government, in the Department of Lands. One of his first jobs with the Department was developing a management plan for Lake Bonney in the Riverland, which included initiating revegetation works and re-energising a rabbit control program. Peter has experience across the natural resources spectrum, including soil conservation, water resource management, native vegetation, pest animal and wildlife management, nutrients, catchment planning, practice change, market-based incentives and climate change. He is looking forward to becoming acquainted with the current issues associated with research for rabbit control and to assisting the Foundation in its endeavours.

From the President (cont)

cats and rabbit numbers is another area of interest, particularly as cats and foxes have been recently identified as major reasons for increasing loss of faunal diversity.

The newsletter contains information about new Committee member Peter Day and also Michael Reid appointed last year to replace Dr Lisa Adams as National Rabbit Management Facilitator. I am very pleased to see Peter join the Committee given his extensive experience and his long-time involvement in interacting with community groups. Mike Reid and I are working together to support those involved in the project to introduce the Korean strain of rabbit calicivirus planned for some time next year.

As always, RFA expresses its appreciation to Haighs Chocolates for its unwavering support for RFA’s work and we hope we can continue to live up to Haighs expectations. All members of RFA should take the opportunity to avail themselves of Haighs products given their quality, range and universal appeal.

Nicholas Newland AM
Chairman
March 2015
Can additional parasites aid rabbit control?

One of the criticisms of the ideas and efforts to recreate a mammoth from its DNA is that an animal isn’t just what is created by its DNA but rather an amalgamation of organisms such as bacteria, viruses and parasites. In the historical transportation of animals across the world to Australia, it is likely that the parasite- burdened and sick critters got weeded out and ended up over the side of the ship or eaten. The cane toad (Rhinella marina) is a good example of this and its journey from Guyana and French Guyana (South America) to the Caribbean, then to Hawaii and then to Australia has given us a robust pest with only one known South American parasite – the lungworm *Rhabdias pseudosphaerocephala*.

The capacity for parasites to assist in control of the European rabbit was recognised in the 1980s with the CSIRO project that investigated *Protostrongylus rufescens cuniculorum* and *Cittotaenia*. One of the early outcomes of my project with the IA CRC to find new biocontrols for Australia was advice from Antonio Lavazza, the Italian rabbit disease/parasite expert, to investigate the coccidia (*Eimeria* spp.).

Eleven species of *Eimeria* are known to parasitise the European rabbit, 10 of these are gut parasites, the other (*E. stiedai*) is a liver parasite that causes the white nodules more often seen in young rabbits. The two most pathogenic are *Eimeria flavescens* and *E. intestinalis*. The only location in Australia where these two species have been reported is at Wellstead in south-west WA. Though parasites including *Eimeria* were not found to be an important mortality factor at Wellstead, this could relate to their collection of only 6 faecal/Eimeria samples over 3 years, or to site abundance of the infective oocysts. *Eimeria* are a major issue for rabbit farms around the world, and were found to be more abundant in rabbits with myxomatosis. This interaction between parasites and disease is a critical aspect of my rabbit biocontrol research. If myxomatosis can compromise rabbit immunity to *E. stiedai* and nematodes, and *E. stiedai* compromise total body mass, itself positively correlated with number of foetuses, and we see both myxomatosis and RHD kill animals resistant to the other disease, then the hope is continuing to compromise rabbit immunity and fitness will further compromise a rabbit’s fecundity and capacity to survive disease, parasitism or nutritional stress.

David Peacock, Biosecurity SA

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*Eimeria are a major issue for rabbit farms around the world, and were found to be more abundant in rabbits with myxomatosis.*

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*photo of a rabbit with a major Eimeria stiedai infection of its liver*
FOUNDATION FOR RABBIT-FREE AUSTRALIA

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I would like to become a member of the Foundation for the period 1 November 2014 to 31 October 2015

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The 2014/2015 RFA membership year finishes on the 19th November, 2015, the date of the 2015 AGM

Thank you to those members who have already paid their subscriptions this year

Support the Foundation for Rabbit Free Australia - become a member:

Forms can be downloaded at: http://www.rabbitfreeaustralia.org.au/membership_form.html