

## Rabbit numbers high in 2007

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Rabbit populations at many sites around South Australia increased alarmingly during 2006. Reports came from many different regions, from the southeast to the far north.

Cereal farmers in southern Yorke Peninsula and Eyre Peninsula reported the most significant damage to crops since rabbit haemorrhagic disease (RHD) spread from Wardang Island 11 years ago, and increasing problems were reported in high rainfall grazing properties, around rural townships, and in coastal vegetation reserves.

In the pastoral zone, reports of recovery in rabbit numbers came from the Simpson Desert, Roxby Downs and properties along the NSW border, among others. Nevertheless the response has been highly variable – rabbit population monitoring in Flinders Ranges National Park revealed a dramatic increase in numbers during the past 2 years, but at Vulkathunha-Gammon ranges NP rabbits remained at very low numbers.

There are several possible explanations for the change in rabbit numbers. Seasonal conditions throughout SA were highly unusual in 2006. The very good autumn rains provided an ideal springboard for rabbit breeding and populations began to increase rapidly before the normal peak breeding period in late winter.

RHD usually occurs in pastoral areas during winter, and in agricultural areas during spring, but the disease outbreak appears to have been delayed last year by the winter drought, as also occurred in 2002. So perhaps the population changes were determined in part by seasonal trends that favoured breeding but not disease transmission.

Following on from the big January 2007 rains that hit much of central and northern South Australia, a few dramatic declines in rabbit numbers have been reported that suggest RHD and myxomatosis were still out there just waiting for the right conditions.

However, the possibility which is of greatest concern is that rabbit numbers may be starting to recover from the impact of RHD. Recovery could take 2 different forms – either the development of genetic resistance

in rabbits so that they are less likely to die of the virus that was originally introduced, or from genetic change (attenuation) in the RHD virus so that it becomes less lethal. Both of these processes occurred for myxomatosis during the 2 decades after it first spread across Australia in the 1950s.

It is highly likely that rabbits will eventually develop some degree of resistance to RHD but, as with myxomatosis, it will probably result in only partial recovery of

*(Continued on page 6)*



Rabbit warrens adjacent to a cereal crop at Renmark  
Photo: B. Cooke

## Rabbit damage on Macquarie Island concerns RFA

*RFA supports calls for funding a rabbit eradication program on Macquarie Island*

An article in The Australian, 19 February 2007, exposing the controversy between the Commonwealth and Tasmanian Governments re-funding rabbit control on Macquarie Island prompted RFA to voice its concerns in letters to the Commonwealth Government (Minister Malcolm Turnbull) and the Tasmanian Government (Premier Paul Lennon and Minister Paula Wriedt). The letters followed

consultation with Andreas Glaznig, World Wildlife Fund, John Parkes, Landcare Research New Zealand, and Louise Crossley, Tasmanian National Parks Association.

The contents of the letters reiterated the extreme damage caused by rabbits and the high cost (\$25m) of eradicating rabbits on the Island, and strongly supported the urgent need for

funding an eradication program on the World Heritage island if its unique combination of landforms, soils, vegetation and wildlife are to be preserved for our future generations.

Information of the damage caused by rabbits on the island is available on WWF's website, <http://wwf.org.au/publications/macquarie-island-factsheet/>.

## Committee Member Profile: Dr. Chris Holden

Chris joined the RFA executive committee in 2005 with a background in strategic pest management for conservation purposes. He has a Science degree with Honours at Adelaide University and a PhD in Zoology at the University of New England.

Moving back to Adelaide and working as an ecologist for DEH, Chris was a researcher for the National RCD Monitoring and Surveillance Program

studying in the Northern Flinders Ranges the interactions between rabbits, cats and foxes and as well as monitoring small vertebrates. The project sites continue under Operation Bounceback program.

With DEH he has established policy and procedures for pest vertebrate management, research and biosecurity.

Currently, Chris is a project officer developing a process

for evaluating park management effectiveness.



*Dr. Chris Holden*

## RFA represented on the national Rabbit Management Advisory Group

*RMAG had a successful meeting with Senator Eric Abetz in February*

Peter Allen has represented RFA at the first two meetings of the national Rabbit Management Advisory Group (RMAG) held in November 2006 and February 2007 in Canberra.

RMAG is jointly sponsored by Australian Wool Innovation and Meat & Livestock Australia and is convened by the Invasive Animals CRC.

The Group, comprised of land managers and industry, government and research personnel, was instigated to provide strategic and practi-

cal advice on the planning, implementation and delivery of rabbit R&D projects and their outcomes.

Outcomes, to date, include a national and cooperative focus on rabbit R&D directions, with the following issues being addressed:

- The need for an additional biological control agent for rabbits
- The question of genetic resistance to RHDV in rabbits

- The need for improved estimates of the cost of rabbits to Australia
- Further supply and use of myxoma virus
- Interactions between myxoma virus and RHDV
- A web-based landholder support tool on rabbit control (could involve RFA)
- Update on rabbit R,D&E in Australia

RMAG representatives had a successful meeting in February 2007 with Senator Eric Abetz, Minister for Fisheries, Forestry and Conservation, Canberra, on rabbit issues.

## RFA's Awareness Strategy

RFA is concerned that the significant gains made from RHD on Australia's wild rabbit populations in the mid-1990s has led to the need for continuing research, development and education becoming largely unrecognised in natural resource management and policy arenas. This in turn may lead to a reduction in communication and

extension efforts for wild rabbit population control.

To address this, RFA began developing an Awareness Strategy last year. The final document has been signed off by the Committee and outlines the RFA's strategy for building awareness of rabbit issues. It is available to members and others on

the RFA website (see <http://www.rabbitfreeaustralia.org.au/updates.htm>).

The Committee is planning future Foundation activities based on the Strategy and thanks Kim Mitchell, Currie Communications, for his enthusiastic input to the strategy.

*RFA's  
Awareness  
Strategy is  
available on  
our website*

### Bunny Bites

Marty Smith, in his column, *Mouthing off*, in The Advertiser, 16 March 2007, claimed that rabbits like licorice — perhaps this pearl of wisdom may be the foundation for new rabbit baits!!



## Crunch time for rabbit virus—Landline, ABC

The ABC TV program Landline featured a story on rabbits and RHDV on March 25.

Reporter Prue Adams and crew were at the RFA AGM last year filming for the story. Brian Cooke, David Lord, Ron Sinclair, and others were all featured.

The story looked back over the 11 years that RHDV has been active in

the Australian environment and how it has impacted on rabbit populations during that time.

It also focused on what the virus is doing now, and highlighted the issue of the apparent development of resistance to RHDV in some rabbit populations.

The story finished with the message that although Australia may not have made the most of the biological controls of the past, a new bio-

logical control for rabbits is likely to be needed in the future. Further commitment to research and development is critical if this is to be achieved.

Both the transcript and a video of the story are available online at <http://www.abc.net.au/landline/content/2006/s1878793.htm>.

There is also a link to the story on the RFA website from the 'Updates' page.



## Current Executive Committee Members & Advisors

Members of the RFA Executive Committee are elected every year at the AGM. The current members are:

Chairman	Dr Peter Allen, AM
Treasurer	William Morgan
Executive officer	Keryn Lapidge
Secretary	Richard Downward
Committee	Mr Barry Barratt, OAM
	Dr Chris Holden – DEH representative
	Dr Nigel Long - SAFF representative
	Ms Sharon Oldfield
	Dr John Radcliffe, AM
	Mr Tim Rogers

Technical advisers to the Committee are:

Ms F Bartholomaeus  
Mr G Mutze  
Mr N Newland

Look out for Committee Member profiles in the RFA Newsletter!



*Dr. Peter Allen, RFA Chair*



## Rabbits: the current situation

*RFA was very fortunate to have Dr Brian Cooke (Invasive Animals CRC & Applied Ecology Institute, University of Canberra) address its 14th Annual General Meeting in November last year. Dr. Cooke was involved in research on Myxomatosis in the 1960s, has worked on the Spanish Rabbit Flea and was instrumental in bringing RHD to Australia. He has spent time working on the Galapagos Islands before returning to Australia and rabbit research.*

Dr. Cooke began his presentation with a series of photos illustrating rabbit warrens and damage adjacent to cereal crops, on pasture land and conservation areas. Reports of rabbit populations being the worst in 10 years not only highlight the problem but also the absence of effective rabbit control. Generally, land managers still fail to recognise the scale of the rabbit problem in Australia and lack of action on the ground highlights a deficiency in skills for dealing with the problem. Dr. Cooke suggested that legislation alone does not trigger action, and that there is often an absence of connection between stated conservation aims and actual responses.

Dr. Cooke outlined a survey project he is working on to assess the impact of rabbits at current densities on biodiversity in pastoral lands and farmlands. He reported that this research has found that rabbits remain widespread although still at relatively low levels. There are 'hot-spots' - such as the Mallee areas, Flinders Ranges and other areas where RHD had the biggest impact initially —where population resurgence is clear. The ongoing survey is showing that it takes relatively few rabbits ( 2-3 rabbits/spotlight km) to severely curtail regeneration of native perennial vegetation.

Dr. Cooke also outlined some new research projects aimed at determining the risk that rabbit numbers will return to levels that seriously threaten pastoral industries, agriculture and biodiversity. Australian Wool Innovation Ltd (AWI) and Meat & Livestock Australia (MLA) are supporting research to investigate whether rabbits are developing genetic resistance to RHD.

A review of the epidemiology of the RHD virus is also underway involving analysis of field studies of RHD to compare RHD in different regions (e.g. temperate and arid) and a review of the literature published in the last decade to bring together technical information to help us

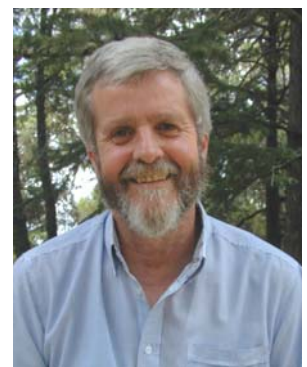
understand the disease. This will provide advice on how best to use RHD (e.g. release more virus, support with additional control measures).

The Animal and Plant Control Group (Department of Land, Water and Biodiversity Conservation, SA) is also carrying out research to ask whether RHDV is changing genetically and assessing the effectiveness of additional RHDV releases.

Dr. Cooke told the AGM that RFA has been very influential behind the scenes in providing momentum for this review of the rabbit situation. He said there seems little doubt that the rabbit threat is rebuilding and we should heed the early warning signals — we are currently seeing the highest rabbit numbers for 10 years in some areas. While it may be too late to reduce rabbits further, we should at least maintain the benefits that have been gained over the last decade.

The recent establishment of the National Rabbit Management Advisory Committee is a step forward. Their inaugural meeting was held in Canberra on the 7th November 2006. It was attended by representatives from industry, the Invasive Animals CRC, State and Federal organisations and RFA. The Committee is working on a strategy to re-establish a national focus on rabbits. It has highlighted improved communications and practical advice for meeting the current situation, almost certainly involving the RFA website, as priorities.

*The RFA Committee thanks Dr. Cooke for his time in addressing the AGM in 2006.*



## Science meets Parliament

RFA sought to have representation at the Federation of Australian Science and Technology Societies' (FASTS) Science meets Parliament event in Canberra. FASTS was supportive of RFA being represented through a FAST member. Involvement in this event would allow RFA to promote its messages on increasing rabbit damage, the need to increase Australia's rabbit R,D&E capacity and on-ground control

through NRM/catchment management boards to targeted federal politicians.

The Invasive Animals CRC agreed to sponsor RFA but, unfortunately the limited number of available positions were taken up for this popular event — perhaps RFA may pursue this opportunity further in 2008.



## FOUNDATION FOR RABBIT-FREE AUSTRALIA POSTGRADUATE RESEARCH GRANT 2008

The Foundation invites grant applications from suitably qualified students in agricultural science, natural resource management, agricultural economics or social science who are intending to commence or have started approved Australian post-graduate tertiary studies (Masters or Doctorate degrees) that relate to the management and control of feral rabbits or to the species or ecosystems that are affected by feral rabbits.

Grants will be awarded on a competitive basis and may provide up to \$5000 to support:

- overseas travel for a study tour; OR
- attending and presenting research results at a relevant international or national conference; OR
- a visit by an eminent overseas scientist, working on rabbits or in a related field, to Australia to mentor the student and address Australian and/or regional conferences; OR
- the purchase of essential equipment required for the post-graduate, rabbit-related research and development project.

The Grant is open to Australian citizens or students that have been continuously resident in Australia for three years immediately preceding the closing date for applications.

### How to Apply for an RFA Postgraduate Research Grant

Details are on the RFA website at  
<http://www.rabbitfreeaustralia.org.au/grants.htm>

**Applications close Friday 26 October 2007**

### Applications can be e-mailed to

[admin@rfa.net.au](mailto:admin@rfa.net.au)

### or posted to

Mrs Keryn Lapidge  
Foundation for Rabbit-Free Australia  
48 Oxford Terrace, Unley, SA 5061

## Postgraduate Research Grant Recipient 2007: Ms Maija Marsh

This year's recipient of the inaugural RFA Postgraduate Research Grant is Maija Marsh, who is undertaking a PhD study titled *Transmission and effectiveness of RHDV infection in rabbit populations at different spatial scales*.

This project uses innovative techniques to quantify the transmission and effectiveness of RHDV infection in rabbit populations in Australia at different spatial scales, through field study as well as spatial and temporal host-disease modelling.

Landscape scale variations in RHDV efficacy will be examined by deriving alternative epidemiological models of RHDV spread and persistence and fitting these models to archived data on RHDV prevalence and rabbit abundance from sites across Aus-

tralia. The best model(s) to explain the data will be selected using the information-theoretic approach.

In the field, the importance of various factors including social and spatial organisation of rabbits on RHDV effectiveness will be determined at geographically matched sites which have experienced differential RHDV efficacy.

An important outcome of the study will also be a direct estimation of RHDV transmission rate in wild rabbit populations from contact rates and the probability of infection.

Understanding the causes of variation in the impact of RHDV together with more accurate estimate of disease transmission (along with population dynamics data) will enable the development of more realistic models on

RHDV spread and persistence, to inform current and future management on the most effective use of RHDV and to determine how the virus should be integrated with other control techniques.

Understanding of the contact and transmission structure within rabbit populations will also be important when planning the use of other biological control methods, especially if the impacts of RHDV on rabbit populations start to decline.



*Ms. Maija Marsh*

Maija is being co-supervised by Dr Piran White (University of York, UK) and Dr Steve McLeod (VPRU, NSW DPI) and the study is jointly funded by the Invasive Animals CRC, National Feral Animal Control Program (BRS) and the Uni-

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## FOUNDATION FOR A RABBIT FREE AUSTRALIA Annual General Meeting



Notice is hereby given that the FIFTEENTH ANNUAL GENERAL MEETING will be held in the Board Room on the first floor of the Administration Building at the Adelaide Zoological Gardens, Frome Road, ADELAIDE SA on TUESDAY 20th NOVEMBER 2007 at 2:30 pm.

Mr. David Lord (from Thackaringa, Broken Hill) will be guest speaker at this year's meeting addressing the current situation with wild rabbits in Australia.

Membership and /or donation form is on the next page of your Newsletter.  
Membership fees for 2007 are due by the AGM.

***For catering purposes, we would appreciate it if you could let us know if you plan to attend the AGM.***

***All members, feel free to attend whether or not you have notified us.  
Non-members, please let us know so that you can enter the zoo without charge.***

***RSVP to Keryn Lapidge on mb 0414 600 878, e-mail admin@rfa.net.au  
If you have a problem on the day ring Keryn on her mobile phone 0414 600 878***

## Postgraduate Research Grant Recipient 2007

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versity of York, UK. She will use the grant to fund a 3-week visit to NSW DPI in Orange by Dr Piran White. The visit will provide fieldwork support, closer collaboration, as well as further development of joint research topics on RHDV dynamics and rabbit control.

Dr. White and Ms. Marsh will also visit Adelaide in September this year to present a seminar to RFA members. Watch the website for details.

## Rabbit numbers high in 2007

*(Continued from page 1)*

rabbit numbers. At this stage we are unsure whether we have seen it begin or whether we are observing natural variation in the effects of the virus due to climatic influences. Australian Wool Innovation and Meat and Livestock Australia are currently funding research to find out. Young rabbits collected from a number of sites around Australia, including 2 sites in SA, are currently being tested at the Robert Wickes Research Centre at Inglewood in Queensland, and results should be available soon.

The question of viral attenuation may be more difficult to answer despite the sophisticated techniques now available to study the molecular structure of viruses. Two of the main challenges lie in collecting virus samples from the field – it can only be recovered from fresh rabbit carcasses; and in handling the virus in the lab – it cannot be grown in the normal cell-cultures used for viral study. Nevertheless, the Animal and Plant Control Group in Adelaide is collaborating with geneticists from Portugal to characterise field strains of virus for testing. We are very keen to obtain rabbit

carcasses (or a piece of their frozen liver) that are suspected to have died from RHD in the far-flung corners of the country!

It is also possible that RHD dies out for short periods in some localities, and can be made more effective by reintroductions. The APC Group, in conjunction with several NRM boards, conducted a number of experimental releases of RHD virus on bait during spring. The results were quite variable but achieved big reductions in rabbit numbers at about one third of trial sites. At several sites, including Roxby Downs, the initial high mortality caused by baiting was partly overcome by high survival amongst young rabbits. Rabbit kittens are much more likely to survive infection than adults and can then form an immune breeding population for the next few years. Future trials will look at late autumn releases to circumvent that problem. Work is also underway in NSW to develop a freeze-dried RHD pellet bait to that could make RHD releases more practicable in remote areas.

*Greg Mutze, Animal & Plant Control Group, DWLBC*



## Membership and Donation Form - 2007

### Details for Membership or Donation

Title \_\_\_\_\_ Surname \_\_\_\_\_ Given Names \_\_\_\_\_

Organisation \_\_\_\_\_

Address \_\_\_\_\_

State \_\_\_\_\_ Postcode \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_ Mobile \_\_\_\_\_

E-mail Address \_\_\_\_\_

**DONATIONS OVER \$2.00 TO THE FOUNDATION ARE TAX DEDUCTIBLE**

I would like to contribute/pledge \$\_\_\_\_\_ to support RFA's funding of rabbit research programs

### MEMBERSHIP OF THE FOUNDATION FOR RABBIT-FREE AUSTRALIA

I would like to become a member of the Foundation for the period 1 November 2007 to 31 October 2008

<u>Subscription Fees</u>	<u>Tick Box</u>	
Student	\$5.00	<input type="checkbox"/>
General	\$30.00	<input type="checkbox"/>
Corporate	\$100.00	<input type="checkbox"/>
TOTAL	\$_____	

### SEND PAYMENTS TO

Foundation for Rabbit-Free Australia  
 c/- 48 Oxford Terrace  
 UNLEY SA 5061  
 Mobile 0414 600 878

Subscriptions for 2007 RFA membership are due by the AGM.

<b>Office Use Only</b>	
Membership fee paid on	/ /
Amount	\$
Membership receipt number	
Donation amount	\$
Donation receipt number	
Receipt(s) posted	/ /



## Easter Bilby weekend cancelled for 2007

RFA is proud of its regular association with Haigh's Easter Bilby Weekend, usually held in Rundle Mall prior to Easter each year.



Unfortunately, due to an overflow of public events in Adelaide this March, the event did not take place in 2007. We hope to be involved in the event again next year.

The Haigh's Easter Bilby did make an appearance at selected Haighs stores in Melbourne and Adelaide, as well as at Adelaide and Monarto Zoos over the Easter long weekend.

### NEW WEBSITE ADDRESS

RFA has a new web and email address! We are now online at:

**[www.rabbitfreeaustralia.org.au](http://www.rabbitfreeaustralia.org.au)**

**Email: [admin@rabbitfreeaustralia.org.au](mailto:admin@rabbitfreeaustralia.org.au)**

On our website you will find information on:

- the history of RFA
- rabbits in Australia and rabbit control
- RFA grants and scholarships
- Submissions and reports
- download our Awareness Strategy, Strategic Plan, and latest newsletter

We hope to update and improve the website further in the coming year so stay tuned for more new features.

## Tales From the Bay: Easter Bilby



The WA Department of Environment and Conservation ran an Easter school holiday activity at Monkey Mia, Shark Bay. The free activity featured enlarged versions of the RFA-sponsored *Easter Bilby* book and meeting some real live bilbies. The photo above shows ranger Petra McPherson and some of the kids who took part. Thanks to Cally Uren of WA DEC for supplying the photo.

## Coming Up .....

RFA is preparing a submission to the Federal Government's draft threat abatement plan "Competition and land degradation by feral rabbits". More information about the public comment process can be found at: <http://www.environment.gov.au/biodiversity/threatened/tap-drafts.html>

The next edition of Anti-Rabbit Roundup will include the views of two pastoralists on the value of ripping warrens in rangelands to production after the 2007

rains. The pastoralists are David Lord, Thackaringa, New South Wales, and Peter Rasheed, Minburra, South Australia.

The Anti-Rabbit Roundup Newsletter is sent out to all members of the Foundation. Please see page 7 for a membership and donation form.

Let us know if your mailing details have changed so we can update our records.