

National Wildlife Rehabilitation Conference 2010

Wombat Mitigation Program

BRIGITTE M. STEVENS

Wombat Awareness Organisation
PO Box 228, Mannum, SA, 5238, Australia.
Ph: 0458 737 283
Email: brigitte@wombatawareness.com

Abstract.

Culling, both legal and illegal is one of the major threats to the survival of the Southern Hairy Nosed Wombat (*Lasiornhinus latifrons*) and subsequently, action is required before populations become critical. The Wombat Awareness Organisation has developed Australia's first Wombat Mitigation Program. This program has been designed to provide and investigate non-lethal, viable alternatives to culling of the Southern Hairy Nosed Wombat in South Australia. The Wombat Mitigation Program is a free service offered to farmers in exchange for wombat protection. WAO volunteers undertake fence repair; utilising recycled materials such as concrete pipes and car tyres creating wombat walkways, WAO negotiates wombat friendly zones, revegetate creek banks in areas where landowners are concerned with erosion and create employment through rabbit eradication. A questionnaire is undertaken by all participants to give WAO and authorities a clearer picture of residents concerns and areas requiring drastic attention. The questionnaire, already undertaken by 72 landowners within the Murraylands region of South Australia has provided incredible information such as the ratio of how many people apply for destruction permits, methods utilised to destroy wombats and their burrow systems, why the wombats are being persecuted and just how small populations of wombats cause such distress to these landowners. The Wombat Mitigation Program is an ongoing program which is working collaboratively with other wildlife organisations and governing bodies to tackle the issues being faced by wombats head on. WAO is hoping by presenting this program at the NWRC 2010 others will be inspired to undertake such programs to prevent further destruction to our unique, incredible wildlife.

Wombat Mitigation Program

BRIGITTE M. STEVENS

Founding Director

Wombat Awareness Organisation
PO Box 228, Mannum, SA, 5238, Australia.

Ph: 0458 737 283

Web: www.wombatawareness.com

Email: brigitte@wombatawareness.com

Introduction

The Southern Hairy-nosed Wombat (*Lasiorhinus latifrons*) is South Australia's faunal emblem and is almost endemic within the limitation of the states borders (Triggs 2009; St John in Wells & Pridmore 1998). They inhabit arid to semi-arid regions, survive off next to nothing in summer and have evolved to survive extreme hardships.

Like all species of wombats, the Southern Hairy Nosed faces so many threats; more threats than common sense can only assume a definite demise of the species. Alongside habitat restriction, loss and destruction; population fragmentation; sensitivity to drought and the effects of drought (i.e. sporadic and unseasonal rainfall); climate change; competition for the rare commodity of food with the introduced European rabbit (*Oryctolagus cuniculus*) and livestock in certain areas; Sarcoptic mange (*Sarcoptes scabiei*); and vehicular accidents this unique animal is needlessly culled, both legally and illegally. The combined effects of European settlement; the introduction of alien species (e.g. the European rabbit, the red fox and domestic animals); climate change, human use and modification of land (through burning, clearing and grazing) has been and is continuing to influence the status and security of indigenous animal populations (St John & Saunders 1989). The range of the Southern Hairy-nosed Wombat has contracted and fragmented during the past 100-150 years (Aitken in Tartowski & Stelmann in Wells & Pridmore 1998).

World renowned wombat researcher, David Taggart, has seen a rapid demise in populations of Southern Hairy-nosed Wombats throughout the Murraylands, reporting a decrease of approximately 70-80% which has been linked to the ongoing drought. Taggart voiced his concern for the future of the species in a recent media release by Adelaide Zoo, stating that despite the tough nature of the wombat and the exceptional adaptations to the extreme harsh

environment he is concerned for the long term future of this cryptic, semi fossorial, nocturnal marsupial in a world facing rapid climate change; studies have reported the major environmental influence affecting population size is drought (St John & Saunders 1989).

Stopping the culling of wombats is the main focus of the Wombat Awareness Organisation. As a rescue organisation for the sick, orphaned and injured, the killing of perfectly healthy wombats goes against the grain and production of effectivity. Researchers repeatedly admit to the ineffectiveness of culling and as very little effort has gone into the research and implementation of viable non lethal methods of co-existence and raising the profile of South Australia’s faunal emblem, WAO is trialing simple yet effective solutions.

Justification

A large portion of the distribution of the Southern Hairy-nosed Wombat is utilised for agricultural and pastoral activities and thus the species is seen by many landowners as a ‘pest’ (St John & Saunders 1989). Table 1 shows that excluding the Nullabor Plain population Southern Hairy-nosed Wombats inhabit regions which are primarily utilised for agricultural / pastoral purposes.

Table 1: Approximate percentage of area, listed by land use, covering each region of Southern Hairy-nosed Wombat populations (St John & Saunders 1989)

COLONY	National Park /Conservation Park	Unallocated Crown Land	Pastoral	Agricultural	Aboriginal Lands
Nullabor Plain	12	61	6	5	17
Gawler Ranges			100		
Eyre Peninsula			80	20	
Murraylands	4		58	38	
Yorke Peninsula				100	

Table 2: Land use of the Murraylands population of Southern Hairy-nosed Wombats

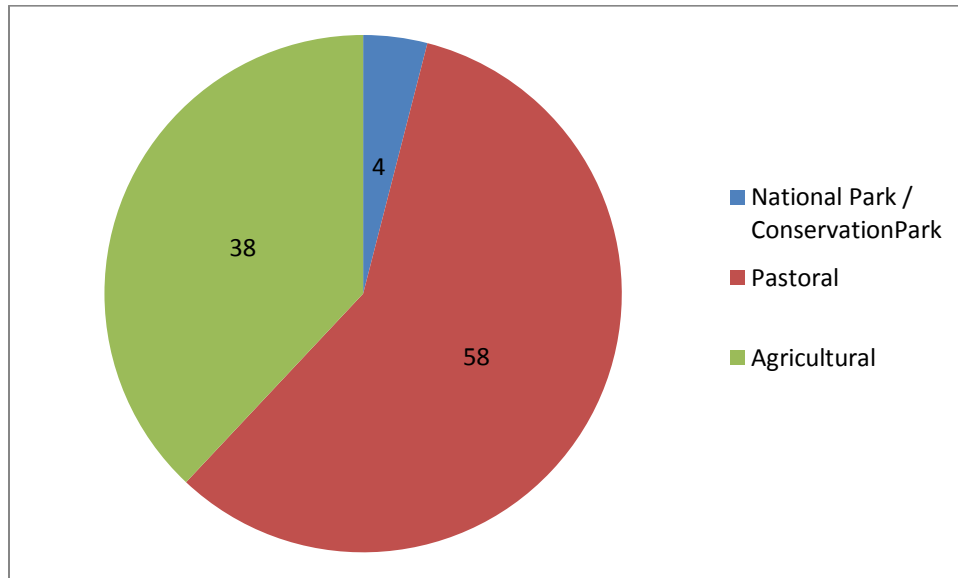


Table 2 illustrates that 96% of the land inhabited by Southern Hairy-nosed Wombats in the Murraylands was utilised for farming practices at the time of survey in 1989. It was foreseen at this time that a strategic management plan must be implanted in order to ensure the conservation of the species. To date no updated management has been developed and enforced. Whilst the Murraylands population is considered locally abundant they are fragmented and isolated.

In a recently published flyer from the South Australian Murray-Darling Basin Natural Resources Management Board (SAMDBNRM) ‘Living With Wombats: Southern Hairy-nosed Wombats in the South Australian Murray-Darling Basin’ NRM stated that the ‘destruction of wombats will not always result in a reduction in impacts – another wombat is often ready to move in to fill the newly created gap... culling wombats may not be an effective management option’ (SAMDBNRM 2010). A survey conducted by the National Parks and Wildlife Service of South Australia in 1985 found that whilst most landowners, with wombats inhabiting their property, were willing to maintain the presence of wombats, they also wished to have greater control over population numbers and considered that culling of wombats was the most appropriate method of control (St John & Saunders 1989). In addition Tartowski & Stelmann (in Wells & Pridmore 1998) found that culling did not prevent the number of wombats from increasing. They stated

that the effect of culling on wombats is very poorly understood and thus the approach to culling wombats should be cautious. WAO is seeing firsthand the devastating effects of drought and disease on these populations and is taking steps now to ensure the conservation of the species.

The Wombat Mitigation Program

The Wombat Mitigation Program has been established to assist the farming community to coexist with wombats by developing and implementing viable alternatives to wombat culling. WAO is hoping to eliminate the need for destruction permits by providing this free service with ongoing support to the farming community, developing a better understanding of needs and concerns and how they can be overcome in a positive nature.

WAO has already undertaken a trial on this project on 72 properties within the Murraylands. A questionnaire completed by participants is providing much needed information to better assess what is happening to the Southern Hairy Nosed Wombat and what is required to overcome these problems. The findings of the WMP questionnaire regarding the landowners concerns of wombats inhabiting their property found that the main concern was damage caused to fence by wombats and the most commonly utilised method of wombat eradication was burrow destruction as shown in Tables 3 & 4 below.

Table 3: the findings of the WMP questionnaire regarding the landowners concerns of wombats inhabiting their property (in order of least concern to highest concern)

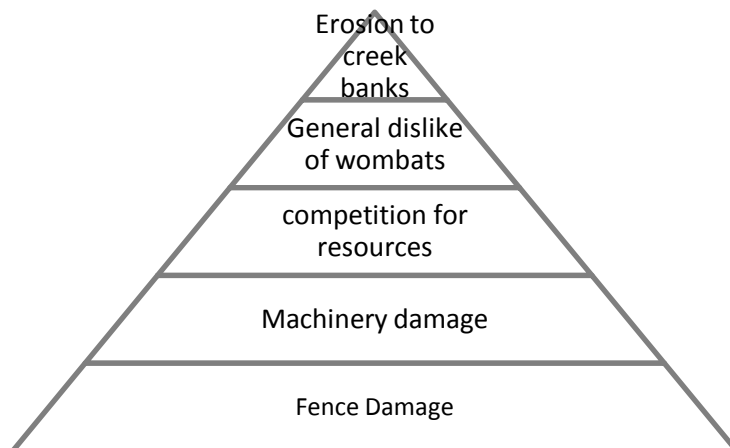
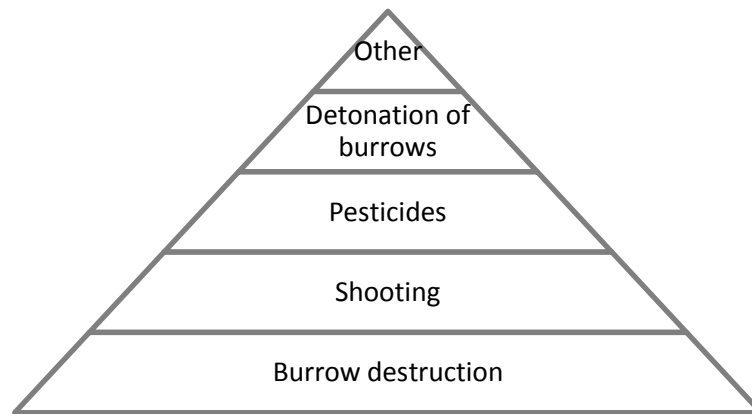


Table 4: the findings of the methods of eradication from the WMP questionnaire (in order of least utilised to most commonly utilised) method of wombat eradication



The free services offered by the Wombat Mitigation Program include:

- Fixing fences damaged by wombats through the utilisation of recycled materials such as tyres and concrete pipes to provide wombat walkways;
- Revegetation of creek banks where concerns of erosion are paramount;
- Negotiating areas safe for wombats; fencing and maintenance;
- Education on how to undertake effective identification and removal of potential new burrows in highly undesirable locations;
- Ongoing support;
- Free rabbit control via a ferreting team; providing further employment; and
- A 24 hour call line

WAO is awaiting response from the South Australian Famers Federation regarding the endorsement of this project, the encouragement of members and the community to participate and to support that all applicants of Destruction Permits are referred to this service. As this is a new project, never undertaken before on this species, full evaluation of its affectivity is not yet known however the program has had tremendous results within the first three months – eliminating the desire from landowners to remove wombats from their property and region and diminishing any damages inflicted by wombats. By WAO undertaking this program, better

alternatives will be discovered as well as a better understanding of the movement of the wombat population.



Figures 1 & 2: Examples of a concrete tunnel and car tyre utilised as wombat walkways



Figure 3 (Left): Wombat walkways;

Figure 4 (Right): volunteers working with WAO to install Wombat walkways

To combat other concerns such as damage to machinery, WAO began cleaning debris and farming materials from disused burrows in negotiated wombat friendly zones to encourage wombats to use them. By creating a clean entrance to the burrows, turning soil around the burrow and placing faeces collected from other areas, the movement of the wombats changed. Wombats in single burrows in undesirable areas evacuated these burrows and relocated to safety

burrows within a three week period, wombats in small warrens took a little longer with a relocation taking up to but not over twelve weeks. WAO then placed small sticks within the entrance of burrows in undesirable locations and monitored daily for 28 days. WAO then began collapsing the front of the burrows and left small holes for easy exit of any inhabitants. Gradually over a three week period, more and more soil was collapsed around the burrow. After no evidence of any animal movement for a further 28 days, a plumbing camera was placed down the burrow to confirm no residents, the burrows were then deemed inactive and the landowners could collapse the burrows. This may be a lengthy process but is conducted during the non cropping season (November – March) where productivity is least affected.

Education of landowners regarding the importance of wombats in the region: the vital role they play in soil aeration; habitat their burrows provide to other native animals and the general preference of native and nut grasses generally curb current opinions. Rabbits inhabiting wombat warrens are more of a concern for a competition of resources. To combat this, WAO located rabbit eradicators in the form of ferret controllers. This process involves highly trained ferrets chasing the rabbits out of burrows where they are pushed into a cage placed at the burrow entrance. The rabbits are then killed quickly and humanely. This service is free as the operators make an income by selling the rabbit meat to restaurants and butchers. By utilising this simple method, the landowners have an added benefit of utilising the Mitigation Program, the rabbits are eradicated providing less competition of resources for both the landowners and the wombats, the rabbits are killed humanely and further employment is created in the region.

According to the survey, wombats inhabit less than 1% of affected properties. Economic viability of low land and crop value versus damage to machinery is easily determined. In fact, during WAO's investigations into the landowner's claims of massive income loss discovered that a single burrow in marginal country (wombat habitat) may cost between \$3 and \$19 per year, dependant on the conditions of the season. Negotiations of Wombat friendly zones are then sought and chosen by determining the highest population of burrows, vicinity to boundaries, vegetation and native food.

Erosion of creek banks caused by wombat burrows was of high concern yet research has shown that the erosion caused by farming practices, rabbits and sheep is of far greater significance. To

combat these concerns the areas are fenced off to prevent further damage from sheep and a revegetation program propagated by local schools offers stabilisation.

St John & Saunders found that burrow-ripping and fumigation aimed at rabbit eradication may have possibly led to the extinction of numerous populations of Bare-nosed (or Common) Wombats and foresaw the likelihood of the Southern Hairy-nosed Wombats being confronted with similar issues (Mallett & Cooke in St John & Saunders 1989). In a report compiled by St John and Saunders for the National Parks and Wildlife Department of Environment and Planning in 1989 it was stated that the distribution of Southern Hairy-nosed Wombats at that time (1989) was delineated by land use and loss of habitat in areas utilised for agricultural purposes (St John & Saunders 1989). WAO is working tirelessly within the farming community to establish and provide viable, non lethal methods of co-existence and is striving to make illegal culling socially unaccepted in the community hence securing the conservation status of this unique species.

Conclusion

WAO strongly believes that the Southern Hairy-nosed Wombats of South Australia can not sustain and flourish in the current environment. WAO also believes that the population is dispersing rather than increasing, as research cannot prove either, we base our claim on assessing dwindling numbers of neighbouring populations to highly affected areas. WAO believes that there will be a time when destruction permits can no longer be issued due to insufficient numbers within the population and subsequently wishes to investigate all viable alternatives now rather than wait until the species is at a critical level.

Overall, this is a genuine product with tremendously positive outcomes. WAO has formed friendships with participants and hopes that by creating this supportive coalition, social acceptance and protection of the species will occur whilst providing much needed relief to the farming community. Researchers and landowners claim culling is ineffective unless all wombats in the region are eliminated, they take up less than 1% of most properties and simple, financially viable alternatives are available, current populations are not yet known, WAO believes the issuing of destruction permits for wombats should be eliminated.

WAO is a volunteer based organisation and relies on the support from like minded people to assist WAO's devoted cause to free wombats of traditional opinions and increase their value in communities. The Wombat Mitigation Program although in its infancy has been readily accepted by the wider community and is becoming requested to attend properties throughout the state. The Wombat Awareness Organisation through the Wombat Mitigation Program is striving to make the practice of illegal culling socially unacceptable and thus abolished in the very near future.

References

SAMDBNRM 2010 'Living With Wombats: Southern Hairy-nosed Wombats in the South Australian Murray-Darling Basin', SA Murray-Darling Basin Natural Resources Management Board, Murray Bridge.

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Tartowski S & Stelmann J 'Effect of discontinuing culling on the estimated number of Southern Hairy-nosed Wombats *Lasiorhinus latifrons*' pp. 206 – 217 in Wells RT & Pridmore PA 1998 'Wombats', Surrey Beatty & Sons, Chipping Norton.

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Appendix 1: Wombat mitigation program first quarter report 2010

WOMBAT MITIGATION PROGRAM

QUESTIONNAIRE & FIRST QUARTER REPORT 2010



WOMBAT AWARENESS ORGANISATION

WOMBAT AWARENESS ORGANISATION

WOMBAT MITIGATION PROGRAM
QUESTIONNAIRE

Question 1: What area are you located? _____

Question 2: How long has the property been in your family?
_____ months _____ years (approx)

Question 3: Gender: Male Female

Question 4: What is your age group? 18 – 35 years 36 – 50 years
51 – 70 years over 70

Question 5: What is your land use? Grazing Agriculture Grazing & Agriculture
Viticulture Other (Please specify) _____

Question 6: How many acres is your property? _____

Question 7: Is this property your primary residence? Yes No

Question 8: Are you a Primary Producer? Yes No

Question 9: Do you have wombats on your property? Yes No

Question 10: What is your general opinion of wombats? _____

Question 11: Have there always been wombats on your property? Yes No

Question 12: If no, how long have they been on your property? _____

Question 13: Where you aware of wombats in the area? Yes No

Question 14: Do wombats cause damage to your property? Yes No

Question 15: If yes, what are the damages they are causing? (In order of highest to least concern)

Question 16: Do you consider the damages wombats cause to your property to be:
Major Minor

Question 17: Have you trialed any non-lethal methods of wombat control? Yes No

Question 18: Please specify any non lethal methods of wombat control trialed:

Question 19: Have you undertaken wombat culling on your property? Yes No

Question 20: If yes, what method/s of eradication did you use?

Question 21: Have you found culling to be successful in eradicating wombats from undesirable areas? Yes No
Please specify: _____

Question 22: Have you applied for a Destruction Permit issued from the Department for Environment and Heritage (DEH)? Yes No

Question 23: If yes, did a DEH warden inspect your application? Yes No

Question 24: Did the DEH Warden inspect your entire property for wombat populations? Yes No

Question 25: What was the estimated population of wombats in the inspected area?

Question 26: Was your application for a Destruction Permit successful? Yes No

Question 27: How many wombats were stipulated on your destruction permit? _____

Question 28: Were you satisfied with DEH's issue of wombat numbers for destruction? Yes No

Question 29: Did you only cull the quantified amount of wombats specified on the destruction permit? Yes No (please specify)

Question 30: Were you satisfied with the inspector's knowledge of wombats? Yes No

Question 31: Have you ever intentionally destroyed any wombats not on your property? Yes No

Question 32: Are you aware of any illegal culling of wombats in your area? Yes No

If yes, please list methods:

Question 33: Do you think the Government has provided enough assistance or alternatives regarding wombat control? Yes No

Question 34: What is your ideal outcome for wombats on your property?

Question 35: What was the main reason for undertaking the Wombat Mitigation Program on your property? _____

Any additional comments? _____

WOMBAT MITIGATION REPORT

FIRST QUARTER 2010

INTRODUCTION

This report details all projects undertaken or enrolled with the Wombat Awareness Organisations Wombat Mitigation Program within the first quarter of 2010. This report outlines concerns from property owners and how WAO may better assist the farming community to coexist with wombats. Each applicant is asked to complete a general questionnaire after meeting with the Wombat Mitigation Team; all answers are collated to provide the following information.

ENROLMENT REPORT BREAKDOWN

- 72 PROPERTIES WITHIN THE MURRAYLANDS REGION ENROLLED IN WAO'S WOMBAT MITIGATION PROGRAM
- AREAS OF APPLICATIONS : CAMBRAI, SEDAN/SANDLETON, EUDUNDA, KAPUNDA, DUTTON
- THE AVERAGE AMOUNT OF TIME THE PRPOERTY HAS BEEN IN THE FAMILY: 17.7 YEARS
- GENDEPERCENTAGE OF APPLICANTS: 96% MALES TO 4% FEMALES
- THE AVERAGE AGE GROUP OF APPLICANTS: 36 – 50 YEARS
- LAND USE BREAKDOWN: 61 GRAZIERS/AGRICULTURISTS, 10 VITICULTURE, 1 OTHER (OLIVES)
- AVERAGE SIZE OF PROPERTIES ENROLLED: 926 ACRES
- ALL APPLICANTS LISTED PROPERTY AS PRIMARY RESDIDENCE
- ALL APPLICANTS LISTED THEMSELVES AS PRIMARY PRODUCERS
- ALL APPLICANTS HAVE WOMBAT POPULATIONS ON THEIR PROPERTY
- THE MOST COMMONLY LISTED GENERAL OPINION OF WOMBATS BY APPLICANTS WAS THAT THEY WERE DISRUPTIVE
- 69% OF APPLICANTS SAID THERE HAS ALWAYS BEEN WOMBATS ON THEIR PROPERTY
- OF THE 31% OF PROPERTIES THAT HAS NOT ALWAYS HAD WOMBATS, THE AVERAGE AMOUNT OF TIME THE WOMBATS HAVE ENCROACHED ON THEIR PROPERTIES IS 6 YEARS
- ALL APPLICANTS WERE AWARE OF WOMBATS IN THEIR AREA
- ALL APLICANTS SAID WOMBATS DAMAGED THEIR PROPERTY

STEVENS B: WOMBAT AWARENESS ORGANISATION – WOMBAT MITIGATION PROGRAM

- MAIN CONCERNS (Highest – Least Concern) : FENCE DAMAGE, MACHINERY DAMAGE, COMPETITION FOR RESOURCES, GENERAL DISLIKE OF WOMBATS, EROSION TO CREEK LINES/BANKS
- 65% SAID THE DAMAGE WAS IN THEIR OPINION MAJOR
- 12% OF APPLICANTS SAID THEY HAD TRIED NON LETHAL METHODS OF CONTROL
- THE MOST COMMON METHOD OF WOMBAT CONTROL WAS TAMPORING WITH BURROWS – COLLAPSING THE FRONT OF THE BURROW IN ORDER TO DETER THE WOMBAT FROM RETURNING
- ALL 72 PROPERTIES KILLED WOMBATS
- METHODS OF ERADICATION (Highest – Least Utilised Method) : BURROW DESTRUCTION, SHOOTING, PESTICIDES, DETONATION OF BURROWS, OTHER
- ALL APPLICANTS CLAIMED THAT CULLING WAS NOT SUCCESSFUL UNLESS ALL WOMBATS IN THE AREA WERE CULLED
- 5.5% (4) OF THESE 72 PROPERTIES HAVE APPLIED FOR A DESTRUCTION PERMIT FROM THE DEPARTMENT FOR ENVIRONMENT AND HERITAGE
- ALL OF THE APPLICANTS ISSUED WITH A DESTRUCTION PERMIT WERE VISITED BY A DEH DELEGATE
- 88% OF INSPECTIONS WERE ONLY OF THE SPECIFIED AREA OF CONCERN
- THE AVERAGE POPULATION OF WOMBATS WITHIN THE INSPECTED AREA WAS 12
- EACH DESTRUCTION PERMIT APPLICATION APPLIED FOR WAS APPROVED
- THE AVERAGE AMOUNT OF WOMBATS ISSUED ON DESTRUCTION PERMITS WAS 10
- ALL APPLICANTS WERE DISSATISFIED WITH THE AMOUNT OF WOMBATS THEY WERE ALLOWED TO DESTROY
- 10% OF APPLICANTS ONLY KILLED THE STIPULATED AMOUNT OF WOMBATS LISTED ON THE DESTRUCTION PERMIT
- OF THE 90% OF APPLICANTS THAT DID NOT KILL THE SPECIFIED AMOUNT OF WOMBATS EXCEEDED THE QUOTA BY UP TO 300%, THE AVERAGE AMOUNT OF SURPLUS WOMBATS KILLED WAS 6
- 64% OF APPLICANTS WERE SATISFIED WITH THE DELEGATES KNOWLEDGE OF WOMBATS
- 77% OF APPLICANTS HAVE KILLED WOMBATS NOT ON THEIR PROPERTY
- 83% OF APPLICANTS WERE AWARE OF ILLEGAL CULLING OF WOMBATS IN THEIR AREA
- THE MOST COMMON PRACTISES EACH INDIVIDUAL WAS AWARE OF WAS SHOOTING, BURROW DESTRUCTION AND THE USE OF PESTICIDES

STEVENS B: WOMBAT AWARENESS ORGANISATION – WOMBAT MITIGATION PROGRAM

- 81% OF APPLICANTS DID NOT BELIEVE THAT THE GOVERNMENT HAD SUPPLIED ENOUGH ALTERNATIVES OR ASSISTANCE FOR WOMBAT CONTROL
- THE MAIN IDEAL OF OUTCOMES FOR WOMBATS LIVING ON THE APPLICANTS PROPERTY WAS THAT THEY NOT EXPAND ANY FURTHER
- MAIN REASON FOR CONTACTING WAO AND UNDERTAKING THE WMP: PRESSURE FROM WIFE AND FAMILY

OFFICE EVALUATION OF PROPERTIES ENROLLED IN THE WOMBAT MITIGATION PROGRAM

- MAXIMUM AREA OF WOMBAT BURROW COVERAGE: 103 SQUARE METRES
- AVERAGE PERCENTAGE OF PROPERTY OCCUPIED BY WOMBAT BURROWS: >1%
- ESTIMATED ANNUAL INCOME LOSS DUE TO WOMBATS: \$3 - \$19 per single burrow per annum