

A model for cat control

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ABSTRACT

In recent times there has been increased concern about the ecological impact of feral and domestic cats in Australia. Facts are scarce but the cat has been suggested as a potential threat to wild species and as a result 'cat-bashing' has become popular in some sections of the community. On the other hand the community generally recognises the value of the cat as a companion animal and its popularity remains high. Feral cats however have few supporters and an humane eradication program would probably receive majority support.

The success of an eradication program however would depend partly on the containment of the domestic population since it has been suggested that some feral population densities are maintained to some extent by periodic recruitment from dumped or straying domestic cats. Prevention of recruitment or re-establishment of a feral population following eradication would depend therefore on a management program which (a) prohibited the ownership of reproductively capable cats by other than registered cat breeders, (b) prohibited free-ranging of these animals with meaningful penalties for non-compliance and (c) was consistent at least state-wide if not Australia-wide. A model for such a program is suggested here.

CATS AND WILD LIFE

Despite the popular view that cats, both feral and domestic, pose a great threat to native wildlife, very little convincing information is available to support this view. It may well be that cats have had a major role in the decline or disappearance of some native species, but quantitative data which decisively show the cat to be the single or even major cause of a species extinction or serious decline on the Australian mainland, have not been forthcoming. Even specific studies on rare and endangered species have sometimes simply clouded the issue. Seebeck et al. (1991) assert that the major killers of the Eastern Barred Bandicoot (*Perameles gunni*) in mainland Victoria are '... cats and cars'.

The same principal author (Seebeck 1983) asserts that the Tasmanian population of Eastern Barred Bandicoots '...appears to have increased since European settlement..' [despite the fact that the feral cat is widespread in Tasmania, (Copson 1991)] and suggests that 'The absence of the Fox from Tasmania may perhaps be significant!'

Pettigrew (in press) asserts that teeth marks made in the aerial of an abandoned radio tracking device fitted by collar to a Bilby (*Macrotis lagotis*), were reliably identified as having been made by a cat and that this was 'proof positive' that cats prey on these rare and endangered marsupials. At the same time Pettigrew admits that no Bilby remains could be identified from the stomach contents of 'hundreds of cats' shot in the area. Evidence as to whether the Bilby was wearing the collar when the cat chewed the aerial or if it was, whether the Bilby was alive when the cat found it, is not offered. The assumption that the cat killed the Bilby, on the basis of the evidence presented, is somewhat questionable when the cat's habit of scavenging in the absence of live food is apparently well known (Jones 1983).

An examination of the species accounts of native rodents in the Australian Museum's *Complete Book of Australian Mammals* shows that twenty species have suffered significant decline or apparent extinction since European settlement (Strahan 1983). Whilst habitat destruction relating to grazing, agriculture and resource competition from cattle, sheep and rabbits is frequently mentioned as the most likely cause, none of the authors makes reference to predation by cats, either domestic or feral.

Paton (1991) asserts that domestic cats have a substantial impact on native wildlife and gives estimates of the number of vertebrates taken by them per hectare of urban land use each year. Paton however fails to draw attention to the fact that three native carnivorous marsupials that once occupied this study area are now considered to be locally extinct. These predators were the Spotted-tailed Quoll (*Dasyurus maculatus*), the Eastern Quoll (*Dasyurus viverrinus*) and the Western Quoll (*Dasyurus geoffroii*). All are voracious predators killing and consuming other native species in order to survive.

Males of the largest of the three species (*D. maculatus*) attain weights of up to 7kg (Edgar 1983) making them as large or even larger than the average feral cat.

It has been suggested that competition from feral cats may have caused the serious decline, massive range reductions and local extinctions of quolls and other predatory native species and if this is so then the case against the cat would have another dimension. Evidence to support this view is also difficult to obtain. For example, in Tasmania, where the feral cat is widespread and abundant (Copson 1991), the Eastern Quoll which is believed to be extinct on the Australian mainland, is considered abundant and therefore secure (Godsell 1983). Similarly, although the Spotted-tail Quoll is listed as a species requiring further research and monitoring it is nevertheless considered to be presently secure in Tasmania (S. Bryant personal communication).

FERAL CATS

There is no doubt that cats take wildlife. Feral cats do this in order to survive and some domestic cats hunt as a matter of habit, but it needs to be demonstrated that cats pose a significant threat to species survival before extremely expensive eradication programs can be justified.

Gordon (in press) has shown that the feral cat is both widespread and abundant in Queensland, being apparently absent only from some areas of closed forest. Nevertheless, surveys have demonstrated the fauna of Queensland to be regionally intact and Gordon suggests that apart from some particularly sensitive species which may be significantly threatened, in the main it appears that cats might simply be cropping a broad diversity of native species on a sustainable basis. Eradicating cats can be very expensive. Newsome (1991) reports that the 151 cats known to have been killed during a four year program to rid Little Barrier Island of feral cats involved 128 people, 3,880 workdays and 27,000 baits. Even using conservative estimates this program, in current terms, amounts to more than \$3,000 per cat.

It might be said that cost, of itself, should not be the major inhibitor of cat eradication where it can be demonstrated that a vulnerable or threatened species is at risk from this predator, but cost must be considered when the cat can be mis-identified as being the prime risk to native species, as the following example clearly illustrates.

In about 1925 a decision to remove all cats from a 180 hectare island in the Cook Strait was apparently sparked by the capture of what now seems to have been the last recorded specimen of an endemic wren by a lighthouse keeper's cat (Veitch 1991). The author reports that 'The lighthouse keepers then set to and removed all cats from the island. This action would not, however, have changed the demise of the wren as almost all the forest was subsequently removed from this island by the lighthouse keepers or their farm stock'!

Veitch (1991) also warns against the indiscriminate eradication of feral cats ostensibly to protect native fauna without proper research to determine the impact on the biota '...after the cats have gone.'

Proposals to eradicate cats are not new. What is somewhat newer is the substitution of the cat debate for improved conservation measures or even as a deliberate distraction from the major threatening processes, such as clearing for urbanisation and industrialisation; overgrazing of stock etc., which are too difficult politically, economically and/or socially to confront.

DOMESTIC CATS

Wildlife conservation has recently become a major motivation for cat control in the urban and peri-urban environment. The popular media have promoted the real or imagined negative impact of domestic cats on wildlife in urbanised areas, but little attempt has been made to properly quantify the negative effects of cats within the context of other negative effects such as habitat destruction, motor traffic and other domestic pets such as dogs and horses.

It has been suggested that the pet horse poses a greater threat to wildlife conservation, so far as traditional domestic pets are concerned, than either the cat or the dog, because of the habitat destruction and loss of bio-diversity associated with the creation and maintenance of a horse paddock (Nattrass 1992). In the more densely settled areas, the hurt and suffering to wildlife caused by cats is the major criticism of cat behaviour rather than of cat predation sufficient to cause local extinction of native species.

It is generally accepted that the feral cat will always be able to maintain its population in the face of conventional control methods, owing to constant recruitment from domestic strays and deliberate 'dumping' of reproductively capable cats.

Sufficient domestic cats are sexually intact to ensure the production of an abundance of unwanted kittens. If, in the unlikely event that something humane, safe, effective and economical can be launched against the feral cat to eliminate it from the wild, then the long term success of such an achievement will need to be supported by strict control of the domestic pet cat.

PET CATS

The cat is very popular as a companion animal. It is estimated that about one third of all Australian households have at least one cat. (Petcare Information Advisory Service 1983). It is unlikely that cats will decline in popularity even with the negative attention given to them recently. In addition, research suggests that pet ownership can significantly contribute to a lessening of certain risk factors associated with cardiovascular disease (Anderson 1992). As a result it may well be that pet ownership (and that will include cats) may be prescribed for certain people who are showing high levels of these risk factors and that as a result, the urban cat population may increase.

At present a significant proportion of pet cats appear to be entire and therefore reproductively capable. Precise figures are not available but an appreciation of domestic cat fecundity can be obtained by examining data from a major animal shelter. Upton (1992) estimates the cat population of Brisbane to be about 193,000 and that during the year 1991/92, 13,745 unwanted cats were presented to the RSPCA's shelter at Yeronga. Fifty-eight percent of these or about 8,200 were kittens under three months of age which, in the absence of the shelter, might have entered the wild and become feral.

This leakage of entire domestic cats to the feral population is almost certainly a reality and is probably more significant in the less settled areas. The locality data relating to feral cats in the vicinity of Weipa suggests that domestic cats from Weipa are the source of the local feral population. The long term success of any program designed to reduce or eliminate the feral cat population would therefore depend on the elimination of entire domestic cats capable of straying to the wild.

BREAKING THE CONNECTION

The domestic and feral cat populations are not separate or discrete populations. There is a flow of individual cats in both directions with almost certainly a much larger number of domestic cats entering the wild than the reverse. Obviously if all domestic cats capable of straying to the wild were desexed, these animals would be unable to establish or significantly help to maintain a viable feral population if they so strayed.

Owners of reproductively capable cats would then need to be registered and licensed as cat breeders to enable monitoring and enforcement of cat regulations. Intact cats would need to be confined in such a way as to prevent escape to the wild.

Any breeder found guilty of allowing an intact cat to wander outside the cat-proof enclosure would be penalised and risk losing the licence. Free ranging domestic cats would all need to be desexed and so it is proposed that it would be an offence to keep an entire cat unless the owner were registered as a breeder.

In order to achieve a totally desexed free ranging population, it is further proposed that a once only lifetime registration fee be applied to all pet cats at the time of their sale to the owner.

This fee would be set at a value designed to fund cat control on a user pays basis. The fee and notification of sale of the kitten would be lodged with a central registry, preferably a state government department or a commission established for the purpose. Any person selling a non-desexed cat would be committing an offence unless registered as a breeder. Any breeder selling or disposing of a live intact cat without lodging a notification of disposal would be committing an offence and risk loss of licence.

All kittens sold would need to be taken to a veterinarian within seven months of the date of sale in order to be desexed. (Early desexing, although basically a sound strategy, apparently has some negative aspects and is not universally recommended by veterinarians). The veterinary certificate of desexing (or death if the kitten has died in the meantime) would then be sent to the central registry and matched to the original sale. Provision would need to be made to enable a purchaser of a kitten to certify that the pet was unable to be found and was presumed dead and also that the cat was not disposed of alive to another person. A statutory declaration would apply here with the usual provisions for false declaration. At this point, offences would include failing to ensure desexing by the original purchaser and false declarations of desexing by a veterinary practitioner. Disposal of any kitten following purchase and prior to desexing to another person would need to be carried out via an amendment to owner details which could be carried out with the assistance of the original breeder and the amendment lodged with the central registry.

Once a cat has been desexed, no further regulation is required. The prime aim of maintaining a buffer of sterile pet domestic cats between intact domestic and entire feral cats has been achieved.

Owners of such pets would be encouraged to retain the original purchase and desexing documents and in the event that it was desired to sell or donate the pet to another person, the papers could simply accompany the cat to its new home. It may not however be necessary to make it an offence to dispose of a desexed cat without supporting papers, as proof of the unlicensed keeping or dealing in entire cats may need to be substantiated by the complainant.

SHERBROOKE AND GLADSTONE

At least two local government authorities have recently legislated to provide some solutions to urban and peri-urban cat problems. Most notable are the Shire of Sherbrooke in Victoria and the City of Gladstone in Queensland. There are striking similarities between the principles incorporated in these legislations and the principles outlined here although all three documents were originally conceived independently. It seems clear that the prime objectives of cat control are designed to meet the needs of human beings, to protect urban residents from the nuisance of cat behaviour and to reduce the number of unwanted straying cats.

Wildlife protection has been cited by both authorities in support of their 'cat' laws. In the case of Sherbrooke the high profile Superb Lyrebird (*Menura novaehollandiae*) has been identified as a species threatened by domestic cats. Curiously nothing in the literature identifies the domestic cat as a predator of Lyrebird.

Lill (1980) lists possible predators as foxes, domestic dogs and feral cats for ground and near-ground nests. He thought that so far as tree nests were concerned the likely predators were 'kookaburras, currawongs or ravens.' Smith (1988) discusses the apparent serious decline in Lyrebirds in Sherbrooke Forest. He acknowledges the possibility of the disturbing effect of large numbers of human visitors to the picnic facilities and alludes to interference by domestic animals. He even discounts predation by his personally favoured culprit, the fox (*Vulpes vulpes*) and goes on to blame the massive alteration to the vegetation community of the forest floor as being the probable cause.

The actual effects of the cat control legislation in both local authorities has yet to be properly evaluated. Evidence to date suggests that prosecution of offenders is unlikely, at least for some time and that the laws are simply providing a legal avenue for individual members of the community to trap and deliver nuisance and unowned cats to the local authority or its designated agent.

CONCLUSIONS AND RECOMMENDATIONS

Demands for cat control have become popular in recent times and most of the reasons for wanting cat control have been identified.

They include:

- Trespassing on neighbours properties;
- Fighting with other cats;
- Caterwauling;
- Digging, defecating, urinating and urine/scent spraying on neighbouring properties;
- Mating with other cats; and
- Stalking and preying on native and introduced fauna (S.A. Department of Environment and Planning 1992).

Whilst it has become popular to promote the threat to wildlife as the most significant negative effect of cats and therefore the most pressing reason for stricter cat control, in reality predation of wildlife is often merely an excuse to complain: noise, trespass, smell etc. are the real objections (Natrass unpublished data).

For cat control to be acceptable and effective in the long term, such control should be based on the real issues and not issues which might be perceived as more morally appealing. The danger with this latter approach is that any cat control programs could completely collapse if the original purposes were exposed as being based on false premises or inaccurate information.

Wildlife welfare is a real issue and it is reasonable to be concerned about the hurt and suffering to wildlife caused by well fed domestic cats, but to assert that major extinctions of wildlife will result from a lack of strict control of urban cats is simply insupportable.

So far as the impact of feral cats on native wildlife is concerned, there is no doubt that insufficient information is available and that before proposals to eradicate feral cats and strictly control domestic ones are considered, research is urgently needed. That research needs to begin immediately.

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REFERENCES

- Anderson, W.P. with Reid, C.M. & Jennings, G.L. 1992. In R.W. Murray (ed.), *Urban Anima/ Management: proceedings of the first national conference on urban anima/ management in Australia*, Chiron Media, Mackay, pp.150-53.
- Copson, Go 1991. 'Cats: a Tasmanian perspective', in C. Potter (ed.), *The Impact Of Cats on Native Wildlife: proceedings of a workshop held on 8-9 May 1991*, Endangered Species Unit, Australian Parks and Wildlife Service, Canberra, p.30.
- Edgar, R. 1983. In R. Strahan (ed.), *Complete Book of Australian Mammals*, Angus & Robertson, Sydney, p.18.
- Godse11, J. 1983. In R. Strahan (ed.), *Complete Book of Australian Mammals*, Angus & Robertson, Sydney, pp.20-21.
- Gordon, Go in press. 'Feral cats in Queensland', in Proceedings of Cat Management Workshop held 6-7 April 1993, Queensland Department of Environment and Heritage.
- Jones, E. 1983. In R. Strahan (ed.), *Complete Book of Australian Mammals*, Angus & Robertson, Sydney, p.489.
- Lill, A. 1980. 'Reproductive success and nest predation in the superb lyrebird', *Australian Wildlife Research*, 7:271-80.

- Nattrass, A.E.O. 1992. 'Wildlife conservation in the urban environment: are pets a threat?', in R.W. Murray (ed.), *Urban Animal Management: proceedings of the first national conference on urban animal management in Australia*. Chiron Media, Mackay, pp.85-86.
- Newsome, A. 1991. 'Feral cats: an overview', in C. Potter (ed.), *The Impact Of Cats on Native Wildlife: proceedings of a workshop held on 8-9 May 1991*, Endangered Species Unit, Australian Parks and Wildlife Service, Canberra, p.12.
- Paton, D.C. 1991. 'Loss of wildlife to domestic cats', in C. Potter (ed.), *The Impact of Cats on Native Wildlife : proceedings of a workshop held on 8-9 May 1991*, Endangered Species Unit, Australian Parks and Wildlife Service, Canberra, pp. 64-69.
- Petcare Information and Advisory Service, 1983. *Cat ownership in Australia: an attitude and opinion study*, Petcare Information and Advisory Service, West Melbourne.
- Pettigrew, J.D. in press. 'A burst of feral cats in the Diamantina: a lesson for the management of pest species?', in Proceedings of Cat Management Workshop held 6-7 April 1993, Queensland Department of Environment and Heritage.
- Seebeck, J. Greenwood, L. and Ward, D. 1991. 'Cats in Victoria', in C. Potter (ed.), *The Impact Of Cats on Native Wildlife: proceedings of a workshop held on 8-9 May 1991*, Endangered Species Unit, Australian Parks and Wildlife Service, Canberra, p.11.
- Seebeck, J.H. 1983. In R. Strahan (ed.), *Complete Book of Australian Mammals*, Angus & Robertson, Sydney, p.100.
- Smith, L.H. 1988. *The Life Of The Lyrebird*, William Heinemann Australia, Richmond, Victoria, p.25.
- South Australian Department of Environment and Planning, 1992. *Cat Working Party Report*, p.1
- Strahan, R. (ed.) 1983. *Complete Book Of Australian Mammals'*, Angus & Robertson, Sydney, pp.365-451.
- Upton, W. 1992. 'Animal shelter management, animal control and animal welfare', in R.W. Murray (ed.), *Urban Animal Management: proceedings of the first national conference on urban animal management in Australia*. Chiron Media, Mackay, pp.138-48.
- Veitch, C.R. 1991. 'Cat eradication: the New Zealand perspective', in C. Potter (ed.), *The Impact Of Cats on Native Wildlife: proceedings of a workshop held on 8-9 May 1991*, Endangered Species Unit, Australian Parks and Wildlife Service, Canberra, pp.82-89

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