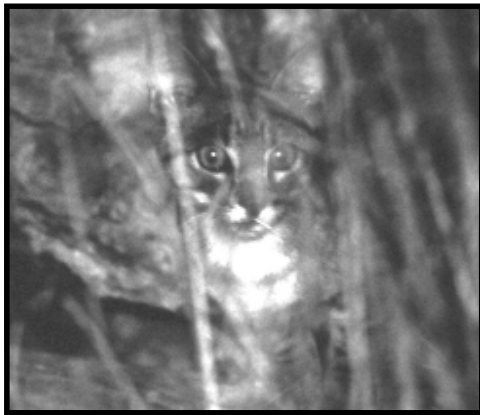


ENJOYING BOTH YOUR CAT AND YOUR WILDLIFE



Land for Wildlife Note No. 16

March 2002



Do you have a warm and furry companion purring on your lap as you read this? Good. What follows has been written for cat-owners who appreciate the natural environment but who are equally attached to a feline friend. Any meaningful discussion about cats and the environment must include both feral and domestic animals because in reality one can become the other.

Evidence of wildlife losses caused by cats, through hunting and the spread of disease, is mounting as the findings of more studies are reported. Some people may feel exposed to criticism and even derision because of their cat and its effect on wildlife, but there is positive news for beleaguered owners and their pets. Some simple and sensible steps will remove the threat to wildlife.

***Felis catus* – an overview of a wildlife predator**

The cat, *Felis catus*, whether domesticated or feral, is a natural predator of animals up to its own weight and size, although the majority of animals killed weigh less than 100 grams. In Australia, cats have been recorded as consuming a wide range of endemic wildlife as well as introduced pest species like the rabbit. Known prey includes 186 species of birds, 87 reptile and 64 mammal species and numerous frogs and insects. According to the Environmental Protection Agency¹ it is inevitable that rare and endangered animals, such as freckled ducks and bilbies, are numbered among the victims.

Statistics vary from source to source, but it seems likely that Australia has between 2.2 and 3 million domestic cats. According to a study conducted by Adelaide zoologist Dr. David Paton¹ these pets, despite generally being well fed at home, on average take 16 mammals, 8 birds and 8 reptiles annually – potentially up to 96 million vertebrates each year.

Some people claim there are actually 12 million feral cats Australia-wide. Even if we accept the more cautious estimate of 3.8 million nominated by the Cape York Peninsula Landuse Strategy³, this is still a lot of feral cats

living on whatever they catch – an adult cat needs about 300 grams of food daily to sustain itself. Since feral cats have no supplementary diet it is certain that they require more prey than domestic cats and the loss of wildlife is much greater, thousands of millions of animals a year.

The blood protozoan disease *Toxoplasmosis gondii*, to which the cat is a host, causes death and foetal injury to native animals including marsupials and macropods. The endangered Proserpine rock wallaby is among the casualties.

History

Cats may have been introduced to the continent by ships wrecked in northern Australian waters prior to 1788. They were certainly carried by the First Fleet and brought in as pets by European settlers. References to wildlife kills by domestic cats are recorded as early as 1839³. The 1841 diary of Miss Anne Drysdale³, who lived near Geelong in Victoria, notes that each day her cat brought home many small birds and reptiles. She tells of eating a couple of quail captured by her pet. Fauna surveys³ in 1929 on Cape York Peninsula recorded the presence of feral cats and it is claimed that all areas of Australia have carried feral cats for at least a century,

currently at an estimated density (on average) of one cat per 200 hectares¹.

Cats filled a vacant ecological niche in Australia and settled into the bush with very little opposition from the endemic wildlife. They had few established predators or diseases to control their numbers although, in some areas, dingoes may have reduced or controlled populations. The cat's hunting methods were very successful in Australia and native species were not adapted to this new stalking predator. Nocturnal hunting allowed predation during the hours when many diurnal native wildlife were at their most vulnerable. In Australia, unlike in many of the colder countries in the northern hemisphere, cats were able to live outside all year. Consequently, reproduction rates were high with females presenting up to three litters annually, quickly swelling the cat population. In arid areas, where a lack of water may have been expected to reduce cat numbers, they were able to live on the water contained in prey.

Management problems

In Australia, traditionally the cat has been admired and ownership has been encouraged by many Australians as both a social companion and a destroyer of vermin, despite its

inefficiency at the latter. Cat control or licensing has only recently been introduced in some Australian states. Our loss of wildlife, invisible to most of the public, has never been quantified in economic terms and therefore not confronted in a coordinated manner across the country. Given the will, cat control is very difficult as these animals are intelligent, hardy and well-equipped for survival even in the harshest environmental conditions.

The impact of cats

While there is no evidence of cats being directly responsible for the actual extinction of an endemic species on mainland Australia, it is apparent on smaller islands in various parts of the world. Predation by cats is thought to be the reason for the extinction of the spectacled hare-

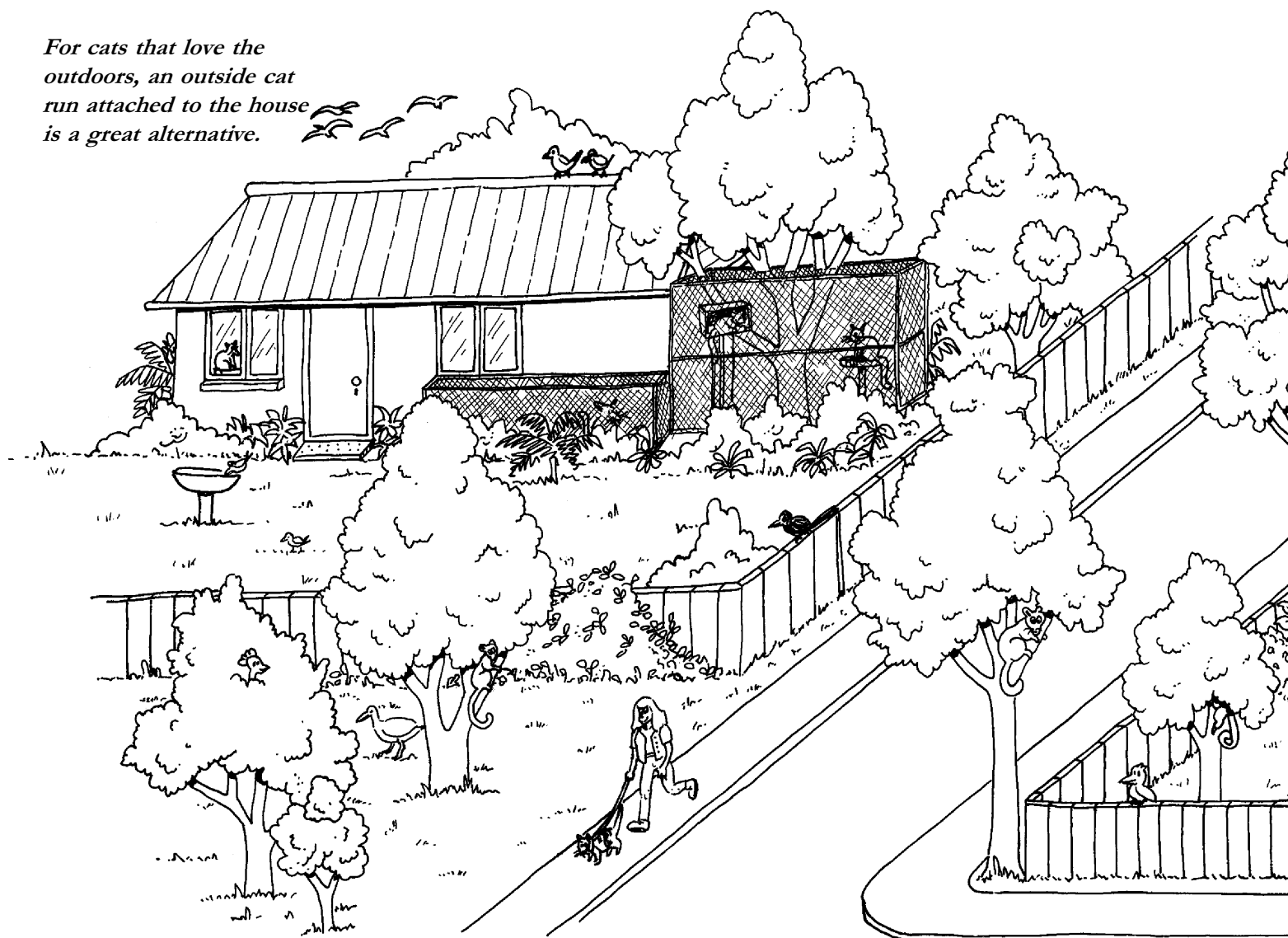
wallabies and golden bandicoots on Hermite Island off the coast of Western Australia¹. It is reported that the brush-tailed bettongs of St Francis Island, south-west of South Australia, were all removed by a lighthouse-keeper's cats¹. In Australia, studies have shown that the predator can certainly control bird numbers by preventing a net population gain³. Failure of endangered species recovery programs has also been blamed on feral cat predation¹. When Northern Territory wildlife rangers failed to re-establish a colony of rufous hare-wallabies in the Tanami Desert, the finger was pointed at feral cats in the area. In terms of ecology and competitor pressure, the introduced cat has probably placed stress on Australia's native quolls, which traditionally ate the same food.

The wildlife kill statistics presented earlier are undoubtedly alarming. If

the best estimates of the scientists in the field are accepted, annually nearly four thousand million wildlife kills can be laid at the feet of cats, feral and domestic. To be both statistically more accurate, and certainly fairer, it should be noted that in southern Australia feral cats eat many rabbits, hugely reducing native animal kills. Even so, there are claims by government agencies that about 80 percent of animals killed by cats are endemic to this country¹.

Unfortunately predation is not the only ill effect on Australia's wildlife attributable to cats. While, as hunters, cats kill only animals up to their own size, they are solely responsible for the introduction and the sexual reproduction of the disease toxoplasmosis, *Toxoplasma gondii*. This blood protozoan disease has serious implications for all native animal populations, particularly kangaroos

For cats that love the outdoors, an outside cat run attached to the house is a great alternative.



and wallabies otherwise too large to have been harmed by cats. The sexual reproduction phase of the disease can only take place in a cat's gut, which is unaffected by the cycle. Infected cat faeces, over four days old, carry parasitic eggs (oocysts) that when ingested by other animals, including humans, multiply, causing clinical illness often leading to both foetal and adult deaths. Rodents and arthropods can act as reinfecting agents to cats, allowing the oocysts to complete their life cycle. While feral cats are the most serious carriers of the disease, Dr David Middleton of The Wildlife Health Australia Trust estimates that up to 30 percent of domestic cats may be infected⁴.

Management – short and long term

Management begins with problem recognition by the Australian public

and government. The cat as a vertebrate pest may appear to fall into the distinct categories of domestic and feral, but in fact they intermingle to such an extent that the line is very blurry. However, such a division is useful tactically in the management of these animals.

Domestic cat care

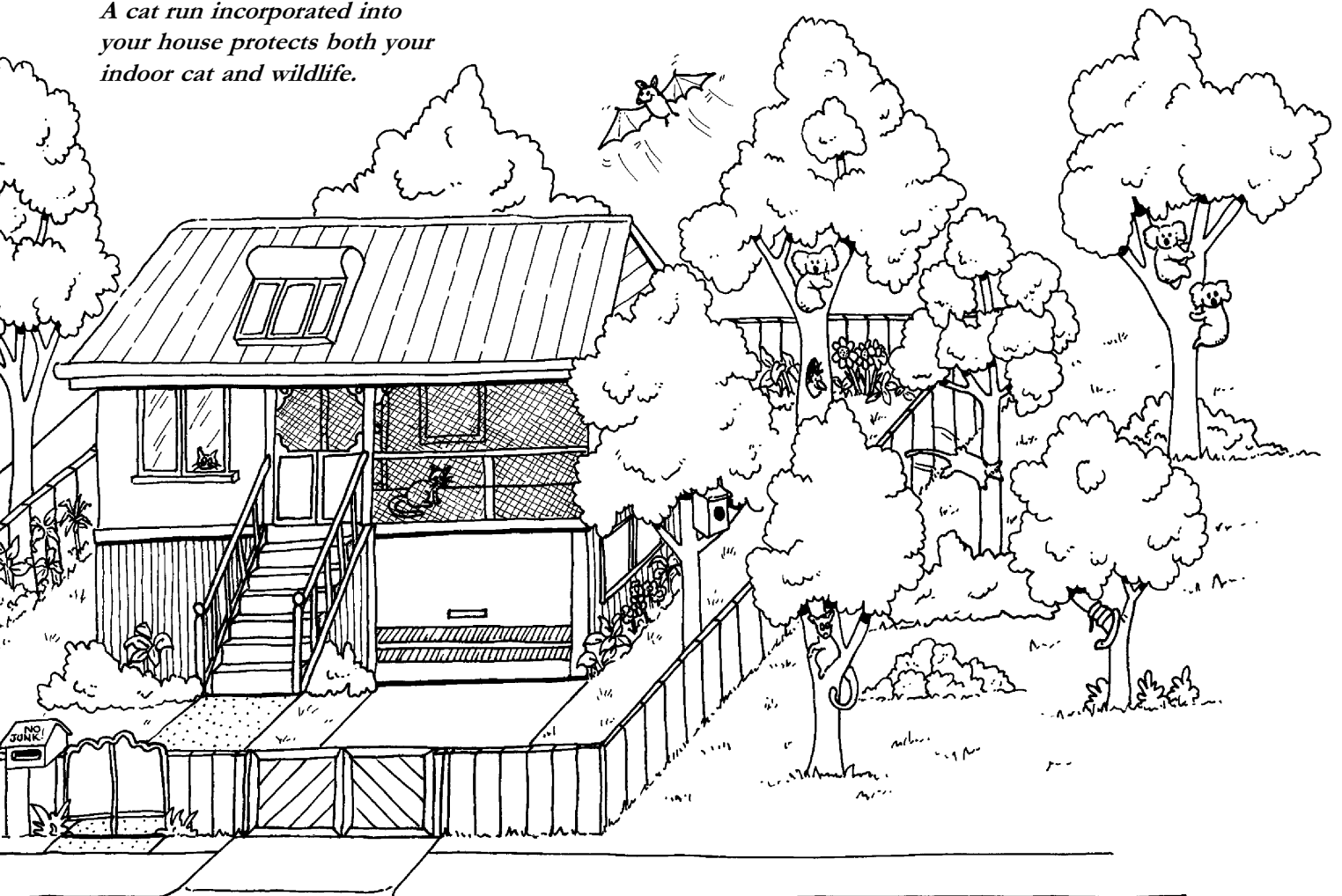
From the outset it should be made quite clear that there is a simple win-win solution to the problem of domestic cats and the surrounding wildlife – a bonus for the humans that love both.

The companionship provided by cats to many people is important socially and should not be played down by over-ardent environmentalists. A 1989 survey of cat-owners revealed that 23 percent of men and 45 percent of women spent between 30 and 120 minutes playing with their cat every day¹.

There are three big management issues confronting a cat-owner – uncontrolled breeding, wildlife hunting and spread of disease. But they are easily resolved by those genuinely wanting to make an environmental difference.

- Desexing domestic cats prevents them further populating the wild should they stray or interact with feral animals. The pay-off is that, on average, desexed cats live longer and fighting and roaming in 90 percent of males is eliminated. Both sexes rarely spray urine when desexed because they become less territorial.
- Most cats will use litter trays if trained to. By cleaning the litter out daily and carefully disposing of the faeces, you can remove the danger of toxoplasmosis to members of the household as well as to wildlife.

A cat run incorporated into your house protects both your indoor cat and wildlife.



- The combination of the freedom of the house and a secure outdoor cat-run, perhaps connected by a cat-flap provides absolute safety for wildlife and cats alike. Cat-runs need not be expensive, unsightly or dull! Chicken-wire enclosures can include shrubs and trees, and even elevated tunnels through the garden canopy.

For cat-owners less committed to absolute wildlife and pet care but who are prepared to make some effort, management is straightforward.

- Desexing as previously mentioned.
- Keep the cat in at night to reduce prime-time kills. Ninety percent of domestic cats that go missing don't return after being out at night.
- Keep a cat litter tray and encourage the animal to use it.
- Triple-bell your cat so that all the movement is captured; single bells appear to be ineffective. Note that bells don't help reptiles, which can't hear.

Managing feral cats

Feral cats have in the past been shot, trapped and baited, methods useful for short-term control in small areas like rubbish tips that attract cats in large numbers. In the Diamantina region of Queensland, at the centre of prime greater bilby habitat, in an area of only a few square kilometres about 500 feral cats were shot in a fortnight. It is uncertain what caused such an aggregation but certainly shooting was successful in lowering feral numbers for a time. Trapping is

used in urban areas where shooting is inappropriate. Elimination by baiting has succeeded on small islands off New Zealand where repopulation did not occur³. Research in that country shows promise in the formulation of baits attractive to cats.

The management of other pests, like rabbits, needs to be integrated with that of feral cats; a reduction in rabbit populations, for example, could greatly increase wildlife predation by cats in southern Australia.

Biological control may be the only effective management strategy in the long term, but a vaccine for the protection of the family pet must be developed at the same time. Research into a viral sterility gene is continuing.

Conclusion

Without management action to reduce and control cats, the species will remain one of Australia's most successful vertebrate pests. Control methods thus far have been ineffective. Until a solution arrives and cat numbers are greatly reduced, hundreds of millions of native animals will continue to die annually. But cat-owners need not feel that they are the bad guys in this war. By taking the simple measures outlined here to manage their cat, they can hold up their heads as protectors of wildlife as well as enjoying the love and affection provided by their pet.

Compiled by:

Mick Barrett

Land for Wildlife Co-ordinator
Whitsundays

References

1. Queensland Department of Environment and Heritage (1993), *Cat Management Workshop, Proceedings – 1993*, Australian Nature Conservation Agency, Canberra.
 2. Cape York Peninsula Landuse Strategy (1996), *Animal and Weed Pests of Cape York Peninsula*. A joint report compiled for the Queensland and Commonwealth government. URL:http://www.environment.gov.au/state/cyp_on_1/reports/lup/weedch3.html.
 3. Platt, S. (1993), Cats and wildlife – how you can protect both, *Land for Wildlife* Note 25. Department of Conservation and Natural Resources, Victoria.
 4. Middleton, H. (1997), Toxoplasmosis – more a threat to wildlife than humans, *Land for Wildlife News*, Vol. 3, Number 6, May 1997, pp.6-7. Department of Conservation and Natural Resources, Victoria.
- Boughey, D. (1995), Cats and Wildlife: a problem close to home. *Biolinks*, No. 4, January 1993. Department of the Arts, Sports and the Environment, Canberra. URL: http://www.environment.gov.au/life/general_infor/biolinks/biolink4.html
- Recher, H. F., Lunney, D. and Dunn, I. (1992), *A Natural Legacy - Ecology in Australia*. Macmillan, Sydney.
- Johnston, P. & Don, A. (1990), *Grow your own Wildlife*. Greening Australia, Canberra.



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