



National Parks Journal

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Published by the National Parks Association of NSW Inc.
Registered by Australia Post Publication No. NBH 1357

August 1993
Vol. 37 No. 4
\$3.00*

Campbelltown's koalas: what is their future?

By Robert Close*

It is a paradox that in 1986, a time when Sydney's major urban population of koalas on Barrenjoey Peninsula was approaching extinction, a new colony was discovered at Wedderburn, near Campbelltown on the opposite side of the city. The history of the Barrenjoey population is a sad one, and one which can provide lessons for retaining the Campbelltown animals. This article briefly describes those lessons, summarises the recent history of the koalas and discusses their future. It also links the campaign to save the koala with the need to conserve the Georges River bushland and associated flora and fauna.



Lessons from the demise of the Barrenjoey Peninsula koalas

As long ago as 1953, there was public concern about the effects of extensive housing development on the Barrenjoey animals. Consequently the Fauna Protection Panel surveyed the population in 1955 and concluded that koalas were threatened by clearing, but would probably survive given extensive tree plantings and the creation of new reserves. Despite this strategy the population crashed from 123 in 1970 to eight in 1990 (Smith and Smith, 1990. *Australian Zoologist* 26:109-29).

Reasons given for the Barrenjoey decline include the following:

- (a) Isolation from other colonies (i.e. loss of dispersal corridor to Kuring-gai Chase NP).
- (b) Dog kills (24-40% of all mortality).
- (c) Decreasing tree densities due to clearing and dieback (from 46% in 1946 to 8% in 1990).
- (d) Dieback of food trees primarily along drainage lines and therefore associated with nutrient run-off.
- (e) Increase in rainforest vegetation in gullies associated with

decreased frequency of wildfire and increased nutrient run-off.

- (f) Decreased eucalypt regeneration due to decreased wildfire and an associated increase in Black she-oak on the ridges.
- (g) Increased numbers of walls and fences which impede movements of animals.

Perhaps if we apply the lessons learnt from the Barrenjoey crash, then the Campbelltown koalas can be protected. Before I discuss the actions required, I shall outline the known history of the Campbelltown koalas. Recent information stems from sightings recorded by the Macarthur branch of the NPA, and from the work sponsored by the University of Western Sydney, Macarthur; NPA Macarthur; and GREAT (Georges River Environmental Action Team); and conducted largely by my research assistants Anthony Scarman and Wayne Foster.

History of the Campbelltown koalas

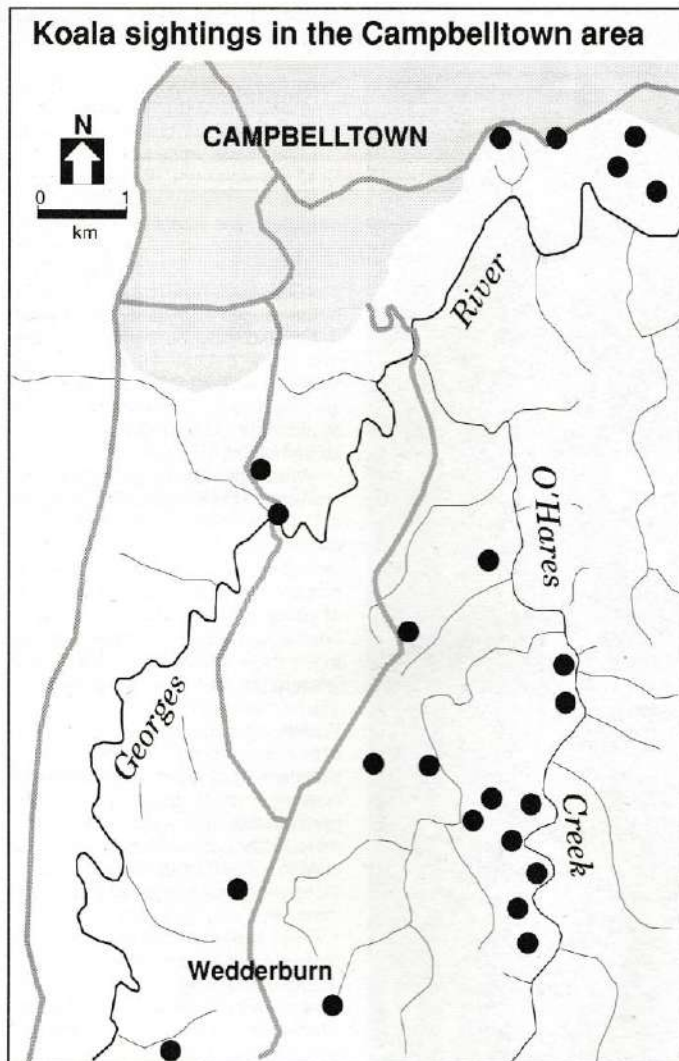
Although several long-term residents of Wedderburn still deny that koalas lived in the area before 1986 (implying that the present animals were brought in by "greenies"), koalas were actually

being harvested there before the turn of the century. Local historian and NPA stalwart, Keith Longhurst, reports that Aub and Mick Rixon who lived on the Georges River at the site of the present rubbish tip were then obtaining one shilling per pelt. With his 60 to 80 hounds, Mick would venture out to the "second creek over" (presumably O'Hares Creek) to hunt.

Then followed a long period with few reports until 1986 when the foreign development company, Yap Yan Pin, bought a property overlooking O'Hares Creek and was given Council approval to construct dwellings upon it. When NPA members reported that koalas were living on the O'Hares scarp, instantaneous uproar broke out. In the ensuing melee, former Environment Minister Tim Moore was forced to back down from an early declaration to protect the koalas, aldermen were faced with court action, 22,000 signatures were collected, and local papers were saturated with stories.

Eventually, the dispute went to the Land and Environment Court, and in a compromise, land was given up to make a buffer zone between the development and the koala habitat, and the number and size of blocks was reduced. Roads have now been constructed, and Prospect Council is

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poised to supply electricity. However, union green bans are still in place, community feeling is still running high, and local environment groups are still fighting.

But what of the koalas themselves? How many are there? What area do they inhabit? What is their reproductive success and disease state? These were the questions which tantalized me. Newspapers would report that the colony was disease-free, and that the colony was endangered. I wanted to know on what biological data these statements were based.

It turned out that no koalas had been tested for chlamydia, the disease which has affected many koalas elsewhere. However, nor were external signs of the disease noted

on any of the koalas sighted. Moreover, nothing was known of the presence of koalas in the thousands of hectares of bush to the east of Wedderburn. This land has been controlled by the Water Board, and the Army which uses it for a firing range. Their combined attention has protected the area from development and hooliganism, but has also restricted access to observers who might have reported koala sightings.

Current research

With financial assistance from the University of Western Sydney, Macarthur, I began a study of the koalas. There have been three phases to our work. The first was to determine basic data such as

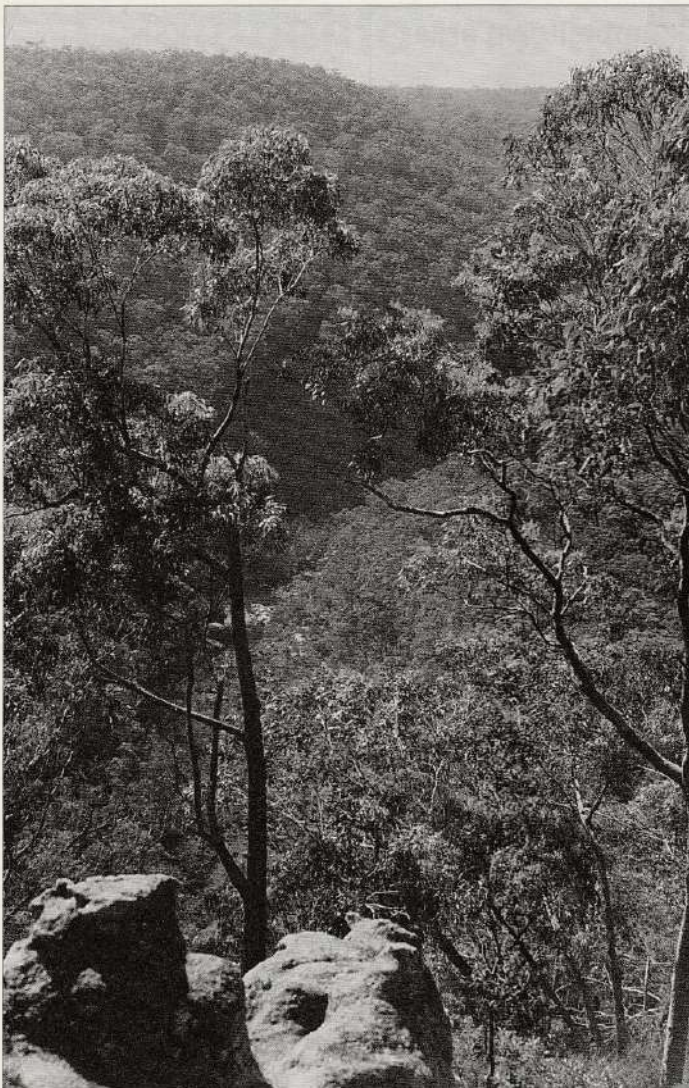
population size and preferred areas. We relied on the current wisdom that the Grey gum, *Eucalyptus punctata*, was the major food tree in the area. This tree has smooth, soft bark which carries the scratches of the koala for several years. When heavily scratched trees are found, searches on the ground beneath for the distinctly shaped and scented faecal pellets are warranted. As these pellets can last several months, areas where koalas are active can be detected without actually sighting the animals.

We were able, therefore, to conduct transects at regular intervals along the O'Hares Creek and tributaries, and beside the Georges River. By scoring the frequency of grey gums, the number with old or new scratches, or with faecal pellets, or with live koalas, we were able to divide the habitat into areas of varying koala density. These areas consist of breeding areas, occasionally used areas, and areas with few indications of koala presence. While most breeding areas were beside O'Hares Creek, a small one was also found on the very edge of Campbelltown, a few kilometres from Wedderburn.

Our estimate in the O'Hares Creek region was 0.1 koalas per hectare in 600 hectares of suitable habitat: a total of 60 animals. This low density was emphasised to me when I visited a site in Victoria. Here I saw more animals in an afternoon than I would have in 30 at Wedderburn. Such a small population is extremely vulnerable to fire or habitat degradation.

A second phase of the study was to produce a questionnaire/brochure. This was used to obtain information from Wedderburn residents and to publicise throughout the region south of Sydney that we were seeking records of sightings. Only 26 of the 210 Wedderburn households responded to the questionnaire despite the stamped, addressed, return envelopes. Only eight of these reported sightings of koalas. Responses from the southern region identified several previously unrecorded colonies in several localities from Wilton to Bowral. One of these, the first from Colo Vale, was an animal killed in a back yard by a Rottweiler dog. Other sightings have been reported to the east from Woronora Reservoir, Heathcote Road, and ANSTO at Lucas Heights. These eastern sightings indicate that the large Army and Water Board areas support at least some koalas.

A third phase is to capture and



O'Hares Creek Gorge, near Wedderburn, is an important koala habitat threatened by expanding urbanisation.

mark animals with coloured, distinguishing ear-tags. Each animal is then weighed and examined by Dr Gary Reddacliff, a vet from Elizabeth Macarthur Agricultural Institute. Although no animals have shown clinical signs of chlamydia, tests show that it is present in the colony. After examination, the animals are then released back at the point of capture. One tagged animal, captured only four kilometres from Campbelltown Station, has been seen three times since. It has moved five kilometres down the Georges River, and was last seen at the start of the closest remaining bush corridor to the Nepean River.

Unfortunately, capturing the koalas

is not easy. Not only are they scarce, but when they are found they are usually 30 metres high or precariously hanging over a cliff. We have been able to capture only seven animals to date. Radio-collars are now placed on captured animals. This allows animals to be followed to determine home-ranges with accuracy and to keep track of their breeding success. It also helps verify population estimates and identifies those areas which are important to the koalas. This latter point is important in an area where there is a demand to clear existing bush for dwellings and for agriculture.

Although only two animals have been tracked to date, the findings are

of interest. One animal, a breeding female, remained in habitat which we had classed as prime. The other, a male, has spent several months in an area which is currently controversial. This area will be classified as 7(1) (i.e. can have limited clearing) in a Draft Environment Plan now being debated in Campbelltown Council. Moreover, the koala is not obeying our preconceived rules. It spends most of its time in Stringybark trees (not Grey gums) and has an enormous home-range. Admittedly, the animal is old and may be being excluded from prime habitat. However, it has shown that koalas can survive for long periods in areas not perceived by planners and biologists as suitable koala habitat.

What appears to be happening then, is that the koalas have a number of "core" or breeding areas which we identified with our transects. Adjacent to these areas lies bushland which can support koalas, but is the domain of young or old animals which have been excluded from the core areas. In the case of disaster, such as the "hazard reduction burn" which in May 1991 "crowned" through two of the Wedderburn core areas, these koala reserves would replenish the breeders. During the good years, the reserve animals would move away from Wedderburn, and reinforce other more distant colonies such as those at Wilton. The Campbelltown animals, therefore, have a regional as well as local role.

The Yap Yan Pin development does not include core areas, and the proposed housing area is at present covered with thick heath. This heath, which replaced the original bush removed in an ill-fated cattle-breeding venture, would hinder dispersing animals. Development would probably open up the site to koala movement from the core areas on three sides, but would expose young animals to the perils of dog, car, and swimming pool. The danger of the development is that it is the first major development along the O'Hares Creek scarp. This creek runs through a superb gorge which is pristine. This is a rare and precious quality, particularly so close to Sydney.

Other species

Many other species, less well-known than the koala, are also found in the area but we have even less information about these. The fact that an animal as large, visible and well-recognised as the koala was not officially recorded until 1986 shows that our zoological

"The koala has awakened an awareness of the local bush amongst Campbelltown citizens and has been a powerful educational tool for the larger ecological good. The local colony must be retained not only for that educational value but also as a source of replacement animals for smaller, more vulnerable local colonies."

knowledge of the area is sadly deficient. Except for the excellent bird studies conducted by Allan Leishman (Royal Botanic Gardens), no long-term faunal study has been made in the area.

Apart from the relatively common mammals - wombat, grey kangaroo, swamp wallaby, greater glider, sugar glider, ringtail and brushtail possums, antechinus, several bat species and platypus - we can only guess at the mammal fauna to be found there. However reports persist of tiger-cats, unusual wallabies and even the eastern quoll. The invertebrate fauna and its ecological importance is completely unknown.

A wildlife corridor

What is known is that the Georges River and its surrounds (which includes Wedderburn) is an area of great ecological significance. It separates from human settlement the adjacent, large region of relatively pristine Sydney sandstone vegetation, which holds an important reservoir of native organisms. These organisms have the potential not only to enrich our lives aesthetically but to contribute to the health of the entire Sydney basin.

The riverside vegetation of the Georges River provides protection, food and moisture for dispersing organisms. From there, they have only to negotiate a four kilometre long bush corridor along a narrow creek-line to connect with the Nepean River system. This then provides access to the south, west and north. The corridor contains a wide variety of plant species but unfortunately it is under severe pressure from recent clearing, weed invasion and cattle grazing.

The koala stands as a visible champion for all these lesser known but equally important organisms. While the public and planners can appreciate the loss of koalas from Barrenjoey and perceive the dangers to the Campbelltown koalas, they find it harder to see the importance of maintaining remaining bushland. Hence at Wedderburn and elsewhere along the Georges River, there is continued pressure to clear, subdivide and burn.

Courts and councils seem unable to prevent piece-meal development that will inevitably lead to a diminished function of the Georges River as a natural habitat and as a corridor between the Nepean and the unspoiled bush to the east. The koala has awakened an awareness of the local bush amongst Campbelltown citizens and has been a powerful educational tool for the larger ecological good. The local colony must be retained not only for that educational value but also as a source of replacement animals for smaller, more vulnerable local colonies.

Required action

If Campbelltown Council is really serious about conserving koalas and the Georges River, it must take the following actions:

- (1) Veto any development which removes native bush or places pressure on the river.
- (2) Be prepared to enforce rules regarding illegal clearing, dog ownership, sewage and nutrient run-off, rubbish dumping, destructive landscaping, weed invasion and off-road vehicles.
- (3) Put in place a fire management program which will maintain natural conditions.
- (4) Organise an educational program to ensure that the above actions are successful since enforcement is unlikely to be effective.

Although a strong Council resolve is necessary, even greater will is required by the residents living in bushland. Their actions must be as follows:

- (1) No dogs, cats or hooved animals.
- (2) Extensive plantings of local trees.
- (3) No unofficial tracks made down to the river.
- (4) Precise attention to efficient sewage treatment.
- (5) No fertilizers.
- (6) Face the risk of a severe bushfire every 15-20 years.

Each one of us has some negative effect on the environment. Those who live in bushland, however, have a significantly greater impact and must

be prepared to pay a price beyond the cost of the real estate. That price includes the six factors listed above.

Without the political pressure provided today by supporters of the koalas, bush dwellers are unlikely to pay that price. Furthermore, Campbelltown Council's efforts are likely to be as ineffective as those of Warringah Shire's in 1955 which failed to conserve the Barrenjoey koalas. Let us hope that colony has not perished in vain, and that not only will the Campbelltown koalas survive but the efforts to save them will also protect the flora and fauna of the Georges River and O'Hares Creek. □

For further information on the campaign to save the Wedderburn koalas, contact the NPA Macarthur Branch, PO Box 792, Campbelltown, 2560.

Wanted:

More Membership Muscle for NPA's Park Management Committee.

Our recent call for new members has produced some good responses, but a few more would be just great.

Experience is not essential, but a commitment to National Parks principles is all-important.

If you have this and would like to help keep an eye on our parks and reserves, contact Carol at the NPA office on (02) 264 7994.