

BURN THE HERETIC

“Native herbivores such as kangaroos and wombats play a vital role in ecosystem functioning but are often victimised and treated with lack of concern because of socio-political factors and historical value judgements rather than heeding biological and ecological information.”

— ECOLOGIST DAN RAMP, IN ‘THE ROLE OF BIODIVERSITY
IN CLIMATE CHANGE ADAPTATION’.

“If burning heretics at the stake were still fashionable, and legal, I would be a pile of ashes now,” Robin Tennant-Wood told me in November 2009.

Dr Tennant-Wood’s sin: a report she oversaw raised some inconvenient truths about the environmental role of kangaroos that did not fit the narrative that had built up in the national capital. The Australian Capital Territory government and its parks and ecology sections were promoting kangaroo killing in Canberra reserves and they did not like conflicting thoughts or evidence.

Tennant-Wood was at the time the Director of the Canberra Environment and Sustainability Resource Centre and a Visiting Fellow at the Australian National University. She had just experienced an incredible couple of weeks.

During that time, the ACT Office of the Commissioner for Sustainability and the Environment, ACT politicians, and ACT science advisors had gone to great lengths to discredit her and a report submitted from the Environment Centre to the Commissioner. This

report was on the contributions of biodiversity – i.e., native animals and plants – in climate change adaptation for the ACT.

Tennant-Wood said the territory government's then Environment Commissioner was told from the outset that the report would be compiled by an environmental science student employed by the centre as a project officer, for a cost of \$4,500 over a two-month period. I later interviewed the commissioner, Dr Maxine Cooper, and she did not dispute that she had commissioned the report on that basis.

It was to review the research literature on how biodiversity benefits the ACT and might help the territory adapt to likely climate change impacts – including longer droughts and bigger bushfires. Several case studies were included, one of them on the Eastern Grey kangaroo, recently targeted for annual, government-initiated killing campaigns on nature reserves.

The report was lodged in August, the money paid. It was to help inform the next State of the Environment report. Then on 21 October, a page one story in *The Canberra Times* started a major uproar about a leak, and worse. The charge was led by the commissioner's office, with several supporting players.

What was the sensitive information leaked to the Canberra public? 'Roo Cull will increase city's bushfire risk' ran the admittedly provocative headline. The newspaper story reported on the four-page kangaroo case study in stronger language than the actual report, which made the simple case that kangaroos had something to offer as natural grazers in the landscape, kinder on the land than sheep or cattle.

The report noted that compared to livestock, kangaroos cause less erosion which in turn means less silt in waterways, and less disturbed soil where weeds can grow. Kangaroos could keep down growth of dry grasses in a dry environment – and because they don't pull up roots, plants in areas they have grazed could regenerate

faster after a bushfire. The report noted that the Eastern Grey had persisted in the urban area and fringe, but was treated as an unwanted ‘pest’ in the national capital despite being integral to the biodiversity of the region. And, unspoken, despite being Australia’s most recognisable tourist icon.

The report included several case studies demonstrating these points and quoted NSW university research ecologist Dan Ramp, describing the role of kangaroos as so-called keystone species in grasslands and woodlands. Their grazing pattern maintained suitable habitat for other species, including threatened and endangered species. He suggested negative biodiversity consequences should the culls continue.¹

COMMON NATIVE SPECIES STEP INTO THE BREACH

Ramp noted that common native species like the Eastern Grey kangaroo, or the wombat, played an increasingly important role in maintaining ecosystem functions as more vulnerable herbivores and other species had declined due to changes wrought by humans – broadscale clearing for stock and settlements being the most obvious example. For these reasons, the report questioned the snowballing ACT policy of culling kangaroos.

Robin Tennant-Wood had no context at the time that her little centre’s report was challenging a local scientific theory and management program that came with employment and funds. But she was about to find out. It became apparent that opposing the ACT kangaroo cull assumptions with positive information about kangaroos was seen as heresy that needed to be quashed.

Tennant-Wood told me for an article: “The commissioner contacted me by phone the next morning, before I had had a chance to see the newspaper. She accused me of leaking the report to the media, admitted that she hadn’t read the report and later indicated that she would be refuting the *Canberra Times* article.”

That same day, emails went out to ACT politicians and department heads. Seemingly, the only aspect of a 40-page report of interest to everyone was the brief kangaroo biodiversity study. A similar briefing letter went to the *Canberra Times* and suggested for the first time that the report was done by a student in an unauthorised fashion and that it had not been peer-reviewed.

The term ‘peer review’ became central to this story. While it was used as a rod to publicly beat the Environment Centre, Dr Tennant-Wood, and the biodiversity report, normally it means that specialists in the same field review and comment on a piece of original research on its way into a scientific journal. This report didn’t qualify for such strict treatment – it was not original research but rather a summary of what the small amount of baseline biodiversity research was suggesting.

KILLINGS INCREASE UNDER SCIENCE COVER

The Commissioner’s letter to the rest of government highlighted the ACT’s claim of scientific justification for taxpayer-funded agencies having killed some 10,000 kangaroos on public land up to 2009 – including on defence land, with more to come. In the years following, the ACT government’s 2017 revised kangaroo management plan indicated, an average 2,000 kangaroos were killed annually bringing the total killed on the Canberra’s nature reserves to 14,000 by 2016.

In addition, the ACT had for decades issued kill licenses to private landholders around the capital region and to neighbouring defence facilities: 97,070 kangaroos were killed between 1997 and 2016 under this system, mostly by private landholders.*²

* ACT public/private killing licenses increased dramatically after the 1990s. In 2015, 82 licenses were issued to kill up to 20,722 kangaroos in one year, mostly by private landholders. Ref: letter to Regional Friends of Wildlife from ACT Conservator, 17 August 2016

The day after the Commissioner's letter went out, Tennant-Wood was contacted by ACT Senior Ecologist Don Fletcher. Dr Fletcher's public pronouncements based on northern hemisphere hypotheses about population explosions among grazing mammals was then the public voice of the science underpinning the ACT's case for culling. I had heard him explain this theory at a local Landcare meeting.

According to this, the ACT was suffering a unique biological explosion of kangaroo numbers. Not mentioned were other factors bringing kangaroos onto grassland and woodland reserves and hopping around the city. Possible factors included inward migration from surrounding farms where shooting took place, presence on reserves due to habitat loss for new suburbs, and lack of wildlife corridors. Commissioner Maxine Cooper's position was that "independent experts" advised her that "overgrazing" was a problem at some sites, leading to the cull recommendations.

CONSPIRACY THEORIES

Email traffic shows the ACT Senior Ecologist charged that there was a campaign against the kangaroo cull and wondered whether the Environment Centre was in collaboration with the *Canberra Times* journalist on this campaign. Another email surmised they had been "suckered in" by someone, maybe the student author or others. "The CKC [Canberra Kangaroo Coalition] includes some very clever people and some have enormous time and motivation for this sort of thing," he wrote.

He also had a problem with anecdotal material about the kangaroo's role in the ecosystem. The sin here was "unscientific" observations from a farming couple who had observed kangaroos on their property for 20 years. They had seen how kangaroos are important for regenerating native grasses as they spread grass seed with their bodies and habits.

Anecdotal material is often all that can be called upon, given the almost complete lack of ecological research since settlement on the role of kangaroo species with the surrounding flora and fauna. (Lack of baseline research on common Australian species was highlighted again by a recent news story reporting that, for the first time, scientists had discovered that Australian bat species are highly migratory and travel across the continent.)

It was becoming apparent that members of the ACT conservation biology/applied ecology fraternity found the anecdotal material – and proffered evidence of the kangaroos’ ecological role in grassland ecosystems – to be dangerous heresy.

Ecological defence of macropods in the environment came from ecologists Dror Ben-Ami and Daniel Ramp – both by that time at the University of Technology, Sydney, with published studies on macropods part of their resumes. They reviewed the offending report and sent a supporting letter to Tennant-Wood to pass on to the commissioner’s office.

If publication numbers and peer review are the standard of scientific credibility, Dr Ramp was a greater expert than anyone in the ACT on kangaroo and wallaby population dynamics and interaction with urbanised land conditions and with humans in south eastern Australia. He had early in his career co-authored a study showing that kangaroo populations stay stable over time.³

In 2009, Ramp testified at an ACT Administrative Appeals Tribunal case that citizens had brought against the cull. He testified that the methods described by the government’s witness, Dr Fletcher, on how government researchers drew conclusions about “overgrazing” – based on measuring grass mass or ground cover height – is not an accepted ecological method for judging kangaroo interactions with either grassland health or other creatures.

Plant scientists I asked about that issue noted that measuring vegetation height only tells you something in cropping systems.

Regardless, ACT city park rangers and associated ecologists continued to use measurement of “green herbage mass” (grass height and volume) as the major yardstick underpinning their case that kangaroos “overgraze” – that they damage ground cover.

Critics of the government pointed to a PhD thesis by one of the city’s advising ecologists. That work looked at natural kangaroo densities in a nearby national park and found densities of 4.5 and 5 kangaroos per hectare could not be characterised as damaging to surrounding environments. There was no evidence that these densities of kangaroos reduce ground cover to levels where erosion can accelerate or predictably result in low levels of ground cover. Yet the city he advised was shooting for a head count of one kangaroo or less per hectare on reserves. I contacted that scientist who said the critics had “misunderstood”.

PATH TO MASS KILLING

Five years before Robin Tennant-Wood was publicly pilloried for a report that agreed with the above thesis assessment – that is, no apparent negatives at typical kangaroo densities – emails obtained through freedom of information requests unveiled a further back-story. At that time, park rangers had been told by their advising ecologists that kangaroos are not the cause of ground cover damage. The ACT rangers were proposing the first mass killing of kangaroos on public reserves at the Googong water reservoir, citing protection of ground cover.

The 2004 correspondence showed ecologists advised rangers that killing kangaroos would do nothing to restore ground cover or grass mass, the weather being the significant factor. That correspondence also signalled that the main motivation for killing kangaroos was to please surrounding sheep farmers who were armed with traditional beliefs that kangaroos were pests who ate ‘their’ grass. The park rangers overrode the ecological advice and killed kangaroos.

Seemingly still in agreement with the farmers, by 2009 when the Environment Centre report was commissioned city officials had been persuaded to set a desktop target of reducing urban grassland reserve densities to one kangaroo per hectare (from an estimated natural population averaging two to four kangaroos per hectare). The target density of one per hectare reflected averages preferred in the agricultural sector.

Canberra residents meanwhile were treated to flexible narratives justifying annual culls to achieve these low densities – unless killed pre-emptively, kangaroos would starve, or maybe they would damage their ground cover/environment and damage endangered species. The narrative grew and flip-flopped over the years but the plan stayed the same. No wildlife corridors were contemplated. Submissions on ecotourism were batted away.

CANBERRA BUBBLE DEFIES NATIONAL FINDINGS

In 2006, a national review of scientific knowledge on kangaroos was produced by two senior public-sector ecologists for the NSW government. The Olsen and Low report stated that “damage is difficult to monitor, predict or even to prove empirically to be an issue”.

The authors suggested that dropping ‘damage’ as a reason to kill kangaroos, removes the ‘pest’ mindset as well. Damage was precisely what the ACT was dog-whistling. It was notable that of 237 learned papers on kangaroos canvassed for this national review, none was written by an ACT researcher or government administrator appearing in this controversy.⁴

Undeterred, within the following decade Canberra researchers were unveiling a novel interpretation of pest and damage that spread to other wildlife managers and has since been used by the commercial kangaroo industry: kangaroos would be labelled as a threat to biodiversity, somehow outside Australian biodiversity.

In the previous chapter on Australian wildlife science I noted the international spread of these ideas by the same research cohort.

In 2009, defending the uproar over the Environment Centre report, ACT Environment Commissioner Cooper said her decision to green-light culling had been advised by an expert panel. On examination, the ACT scientists on that panel may well have trained and worked in traditional agricultural and wildlife sciences that positioned kangaroos as abundant pests causing damage to farmers. Committee members were Dr Lyn Hinds (from CSIRO, at the time in vertebrate pest animal research), parks and land management bureaucrat Dr David Shorthouse, and Dr Tony Peacock, former director CRC Invasive Animals and an agricultural scientist in pig research.

Later, Tony Peacock was appointed inaugural chair of the Mulligans Flat 450 hectare experiment bringing almost-exterminated small marsupials back to the ACT in a fenced enclosure, while healthy kangaroos were shot around the perimeter.⁵

Supporting the Environment Centre report, NSW ecologists Ben-Ami and Ramp wrote, “we know of no studies showing that Eastern Grey Kangaroo populations have diminished biodiversity (flora or fauna) due to overgrazing”.

They might have saved their breath. In mid-2009, and again in 2013 and in 2014, administrative tribunal judges (lawyers and administrators on the payroll of the ACT), considered legal challenges to the culling, brought by citizen groups. Each time the tribunals rejected testimony from ecologists, animal welfare experts and peer-review experts not employed by the ACT government, who challenged the cull’s purpose and methods.

PUBLIC HUMILIATION

Just how seriously the ACT parks bureaucracy took its kangaroo killing mission was about to be felt by Robin Tennant-Wood in that

October of 2009. A public relations agency had been engaged. Two scientists who did not specialise in kangaroo population dynamics or the animal's biodiversity role were asked to peer-review the Environment Centre report. They were Arthur Georges, reptile specialist and Dean of the Faculty of Applied Science and director of the Institute for Applied Ecology at the University of Canberra, and Lyn Hinds, the vertebrate pest group leader at CSIRO who had advised the commissioner on culling.

A meeting was arranged at which commissioner Cooper read to Dr Tennant-Wood from an unflattering review email, but did not offer the names of the reviewers or their full reviews. She received no feedback on what was allegedly missed or how to improve the report – standard peer review practice – and never saw the review. But what the reviewers had to say would be revealed to all in a newspaper article a week later. Public humiliation was next on the agenda.

'Peer reviews discredit kangaroo cull findings,' headlined *The Canberra Times*. The story this time, by a different reporter, made much of the report being written by an undergraduate student, and described its finding in a way that sounded odd (for example, making direct links between culling and erosion and weed outbreaks, which the report does not say).

The city's newspaper reported that the money had been returned and Tennant-Wood had apologised for the report's leaking. It said eminent scientists had peer-reviewed the report and found it "at odds with most scientific research".⁶

The article quoted wholesale from the peer review that Tennant-Wood never saw. Lyn Hinds appeared to object to the suggestion that kangaroos were part of the local biodiversity, and not intruders. Dr Hinds was quoted as saying the report missed "a large body of relevant information with respect to the roles and impacts of kangaroos and other large stock on biodiversity". And management of "overabundant" species was ignored, she said.

Professor Georges didn't like the link between kangaroo culls and bushfire management, and said the report should not be considered for the next State of the Environment report. Commissioner Cooper indicated that she would not use any of the findings or suggestions.

She later told me for an article that once these strong objections were made known to Dr Tennant-Wood and her colleagues, they withdrew the report and refunded the money. Yes, under duress, said Tennant-Wood, since the centre as a whole received vital funding for its work from the ACT government.

Next, the ACT Labor Government's Urban Services Minister dismissed the report on a radio program, saying incorrectly that Tennant-Wood had "apologised" for it. Toeing the party line, he said that there is plenty of peer-reviewed science to support the government's position, but failed to name any.

Robin Tennant-Wood and others came to see this as an issue of academic freedom and freedom of speech, as much as a concerted effort to demonise kangaroos and quash any scientific or lay view that was different.

"What I found most extraordinary about the whole saga is the extent to which the commissioner sought to have the report, the Centre, and me, publicly discredited for questioning a piece of government policy. The scramble to have a minor part of a report removed from the public arena bordered on the hysterical," she told me.

Here in the nation's capital – that calls itself 'The Bush Capital' – was a startling example of the orthodoxy demanded by a sector of science on the right way to think about native animals, particularly kangaroos, in the Australian landscape. The preferred group think in the ACT was emerging from the University of Canberra, the Australian National University, and the CSIRO from applied ecology programs.



Herding of kangaroos before the Belconnen Naval Station mass killing. Canberra parks put cattle and sheep on reserves after they killed the kangaroos.

A year before Robin Tennant-Wood's ordeal, kangaroo killing got underway in the suburbs of Canberra guided by the same applied ecology voices that had been asked to peer review the Environment Centre's report. They were credited with advising the government and the media on the herding and massacre of kangaroos at the Belconnen Naval Station. It caused an international outcry.

The reason as preserved in media reports, was that the defence-administered land was being "overgrazed" by kangaroos (who had lost their habitat to surrounding suburbia and had become confined) and they needed to be culled. Variations on this theme were repeated in regard to both defence land and urban reserves in the following years. The ACT government then and since has rejected translocation proposals for confined macropods.

Ideas cemented in tertiary education play a central role in this saga. Both the ACT's chief ecologist until 2018 and Daniel Iglesias, who in 2012 became the head of ACT Parks and Conservation, studied applied ecology at the territory-government supported University of Canberra. Iglesias thereafter spearheaded the government's cull, and was the voice of the city's propaganda to normalise killing kangaroos.

In the years following this drama, Robin Tennant-Wood was teaching environmental politics at the University of Canberra and receiving students from the science faculty. She said they often reported being taught the basic assumption that there are ‘too many’ kangaroos.

VOICES FROM THE CANBERRA SUBURBS

Being thus told how to think about things and what not to think, how were Canberra residents responding to this slaughter next to their backyards? Over the years I asked a few.

A 2010 newspaper article I wrote about the Environment Centre saga was accompanied with photos from an inner-city reserve, Mount Painter, showing a relaxed and inquisitive kangaroo and a field of healthy-looking grass. The opportunity to mix with unafraid wildlife on this small reserve was treasured by the neighbours who spoke to me.⁷

The site is bounded by a four-lane highway and leased sheep and cattle paddocks continued to monopolise the best lowland grass at the time. The grass on the mountainside where only kangaroos fed appeared lush but elsewhere the mountain was infested with weeds, which presumably was not the kangaroos’ fault. (But yes, they have been occasionally blamed for that too.)

I had the pleasure on that day to walk amongst the mob lounging, unafraid, on the hill. Neither neighbours nor visitors would enjoy that experience again. Five years of shooting from 2010 onwards killed many hundreds – decimating the local mob numbers and structure. Ten or so urban reserves were targeted repeatedly in this way after 2010.

In 2016, a resident of the suburb of Isaacs gave me a moving account of the year that her kangaroo friends, as she called them, were slaughtered on a reserve that had not previously been shot on.

Her story connects a lot of dots on what else this program might be about, a question that has mystified many, including myself.

It was 11 June on a holiday long weekend as Canberrans were enjoying their barbecues and weekend sports. Christine Stevens was walking her dog on the ridge behind her home. What happened next: “I was just chased off by park rangers eight minutes to 5pm at the top. They were there with two park ranger tray trucks, a 4wd buggy, a truck and a yellow digger. They were 200 metres from the most magnificent roos. I had just been admiring them, the only ones remaining, the last cluster, maybe 20.” She likened the experience to watching a shark circling swimmers and feeling helpless.

Stevens said she and her family have walked Isaacs Ridge for 30 years, and knew the families of kangaroos, and found no greater number of kangaroos now than at any other time in the past 30 years.

“We have had kangaroos coming into our suburb for all those years to graze on our lawns. They are the perfect lawnmower. Never eating too low, nor up-rooting grasses, and their soft feet never break the ground unlike horses, cattle, sheep. Those of us who have walked upon the ridge several times each week for 30 years can testify that kangaroos are not overpopulating Isaacs Ridge, nor causing stress to the grasslands nor to themselves.”

She said she was too scared to photograph the shooters, as they were watching her and told her to go. “One truck drove after me with its lights on. Very intimidating. If I had been there five minutes later, I might have been shot.”

On the same day the public broadcaster ABC reported that the ACT parks department admitted its contract shooters had probably been using illegal silencers in its recent reserve culls, most of which take place within a kilometre of residences and all within three kilometres of residences (said to be a proper yardstick of a shooting ‘danger/safety’ zone).⁸

“A cull is brutal to kangaroos who are herd creatures,” said Stevens. “Many neighbours suffer every night of a cull at the thought of the trauma inflicted on these endearing creatures. They have interacted with them over a long time.

“The distress to sympathetic residents is not short-lived. It is protracted over two-and-a-half months. No one is directly informed and we do not know if the cull is executed over a matter of days by way of coordinated effort. Or whether it is like duck season and shooters can enter and cull any time over the two-and-a-half months. Nor do we know if the count includes joeys in the pouch [who are bashed to death].”

Stevens was aware of the yearly press releases and fact sheets, released by Parks Director Daniel Iglesias and posted on the government’s website, that claimed killing kangaroos protects threatened species and ecosystems. But events at Isaacs Ridge in the months leading up to the cull convinced her and others that the cull has little to do with saving endangered species. Development and getting kangaroos out of the way appeared the driving force here, as it has been at other sites around the capital.

The ridge has been a popular recreational place for neighbouring residents and visitors who came to experience native plants, the wildlife, and the views. But it is also home to a large pine plantation, is infested with weeds, suffered a major fire in 2003 and back burning since, and finally became the site for Canberra’s latest and extensive mountain bike competition course – none of which indicated that the ACT government thinks this is a site of sensitive flora and fauna in need of saving.

Stevens concluded there was no evidence of any habitat or species requiring protection on Isaacs Ridge. Otherwise, the commercial pine plantation, orienteering events, and the trail and outdoor adventure park would never have been established there. Instead, she and her neighbours came to believe the kangaroo killing was

related to a high-handed intrusion on their neighbourhood: the Isaacs Ridge Trail Plan includes a mountain bike racing course, and expanded routes for cross country cyclists, equestrians, and walkers. (Can't have a racing cyclist colliding with a kangaroo.) Residents were not consulted or informed in advance of this plan.

Nor was there consultation about the dangers of high-powered ammunition use close to houses. Those were only flagged when residents found signs warning of stiff penalties (prosecution and fines up to \$7,500) if they 'trespassed' on the closed walking paths across the ridge during the slaughter. That meant residents who used the area for exercise or walking dogs before and after work and after dark might be in danger of either being shot or getting a massive fine.

Remembering her family's 30 years of observing a stable kangaroo population on the ridge, Stevens is one of the many who understand that kangaroo lives and breeding are adapted to seasonal conditions.

"They have evolved though multiple-thousands of years in Australia, needing to preserve their grassland." Canberrans, she advised, need only open their eyes. "An observer will notice a vast difference in the grasslands of Isaacs Ridge and those of the horse agistment properties abutting the northern end of the ridge. The lands agisting horses can be quite denuded compared to the grasslands which are grazed by kangaroos only."

Stevens was unusual in speaking out. But in 2018 the cull appeared to have finally woken up some of the national capital's becalmed population, with a spate of letters to the city's daily paper lambasting the government for the cull and for ignoring much more positive opportunities, like wildlife tourism. But the authorities were not listening.

In 2019, as the ACT park bureaucrats announced an improbable, all-time-high cull of 4,000 animals on nature reserves (always well-timed to coincide with Mother's Day), a Canberra resident posted on the local public broadcaster's Facebook page. It was in response

to a little poll questioning whether people support this cull. (The comment section was packed with people saying ‘no.’) She wrote:

“We’ve had a little mob of roos living on a vacant block in North Watson for the 22 years. I’ve enjoyed their company. Although the numbers have changed throughout the seasons, with the instinctive urge for males to leave, and in response to previously vacant land being developed, the fluctuations disappear over time leaving a mob of just a dozen or so there permanently.

“This mob are a family, with 3 babies this year, and yesterday they were forcefully removed to Mt Majura to be culled. Just breaks my heart and the thought of unborn joeys being so inhumanely destroyed brings me to tears. They’ve been left alone for 22 years and managed to stay their population growth to a size the block can support without needing culling.”

CRUELTY, AND A CODE FOR KILLING MOTHERS WITH BIODIVERSITY THREAT NARRATIVE

As I write these words, a newly-emerged kangaroo joey hopping after mum appears on the lawn outside my window. My desk chair scraping leads to a quick dive back into the pouch, now dragging near the ground with its toddler weight. Mother looks around, then bends to graze. An older sibling is not far away, the so-called ‘at foot’. Daughters can stay with mum for years. Kangaroos seem emblematic of protective motherhood.

The cruelty of the cull has been an enduring theme for the handful of wildlife defenders who have borne witness, night after night for two cold months, when the Canberra slaughter starts. Environmental scientist and long-time animal defender Frankie Seymour told me: “Every year we see hundreds of orphaned at-foot joeys lining the roadsides where their mothers were shot. Every year we hear the popping of the ‘euthanasia’ shots hours after the

last of the killing shot has been heard.” A partially-weaned joey’s future is very uncertain, facing stress, hunger, car strike, and canine predators.

The fact that kangaroo mothers, with joey on board, likely accompanied by a young at-foot joey, are indiscriminately shot, has been made possible by a manipulation of the already minimal national animal welfare code of conduct governing the shooting exercise. When ‘management’ and ecological safeguards are cited as the reason for culling, the code drops to an even lower bar, allowing shooting of mothering females, that is otherwise discouraged.

This may provide a vital clue to why the ACT found convenient – or encouraged – the ‘kangaroo threat to biodiversity’ theory and narrative. Seymour spent years on the Territory’s Animal Welfare Advisory Committee. She witnessed the trajectory to wholesale slaughter with the help of a welfare code that was adopted by the ACT against the committee’s recommendation.

The adopted code of practice now permits killing of females with young in pouch or at-foot, if environmental conservation (say involving endangered species) is cited. Its wording is vague, and difficult to enforce. Seymour says it has all the hallmarks of a code whose main function is to legally shield those engaged in the killing from prosecution for animal cruelty.

KANGAROOS PART OF BIODIVERSITY?

NEXT DOOR THINKS SO

The ‘kangaroos are a threat to biodiversity’ narrative was becoming more embedded by the 2017 cull. The ACT Parks statements assured the public it is all about “ensuring these sites are not overgrazed [while protecting] threatened species and ecosystems, habitat for creatures such as lizards and ground-feeding birds and preventing excessive soil loss and still maintaining sustainable numbers of kangaroo.”⁹

To look more widely at the local ecosystems, I had been taken on a tour of Queanbeyan grasslands next door in NSW. I was told that some of the endangered species cited by ACT Parks, the Earless Dragon and the Golden Sun moth, were recovering very well after a 10-year drought despite free-living kangaroos being present. NSW researchers found higher Earless Dragon counts than in the ACT. They said the varied plant heights that accompany kangaroo grazing are natural and good for these ecosystems.¹⁰

COST TO THE TAXPAYER TO KILL KANGAROOS

There appears no end in sight to what started in 2008–09 as a “pilot” culling program. Early in 2020, the ACT government reportedly signed a five-year contract with a private firm which describes itself as dedicated to invasive wildlife removal from public lands, heavy on ex-military personnel and hunting prowess. They might do a cleaner job than the part-time shooter with a spotlight, or his successor.¹¹

Conservation in the national capital marked itself further as a war zone against the government’s enemy. Militarised hardware has become routine with night-vision headgear, silencers and high-powered ammunition for the hunt in the suburbs. The enemy: Australian kangaroo families on Canberra’s nature reserves.

The government’s 2017 revised kangaroo management plan made shooting the enemy even easier. Remaining legal protections were dropped along with the idea that kangaroos were protected native species. Further appeals to the administrative appeals tribunal were blocked. A four to one community dissent to this direction (as indicated by submission numbers) was brushed aside.

Whether the cost of the new shooting contract will extend further the taxpayer-funded annual kangaroo “management” budget was unclear. That budget already nudged a million dollars a year since 2015, according to FOI documents I requested. Estimates

from 2014 translated to about \$400 per animal killed or targeted in the quota. The costs are not going down.¹²

Shooting and managing kangaroos, now including immunocontraception research, has proven a nice jobs and budget cushion for the parks and applied ecology sections of the city government.

Program life revolves around a straightforward blame and desktop numbers game, much easier than dealing with the weeds that infest the grasslands, or with historic stock damage, or the damage inflicted by stock the parks authorities recently put on reserve grasslands after killing the natives – for fire control. The public message is that authorities are caring for the reserves, getting kangaroo hazards off the roads, and clearing away kangaroos from development sites.

A drive past the Belconnen Naval Station, site of the first Canberra kangaroo massacre in 2008, recently revealed a few sheep grazing amidst knee-high grass, with a new subdivision on the drawing board.

In the previous chapter I looked at the academic discipline of applied ecology as it developed in Australia as handmaiden to landscape conversion and agricultural development. The ACT case, and its demands for conformity of thinking that crashed down on Robin Tennant-Wood, shows how this idea-set is spreading to public lands – taken up by politicians, bureaucracy, and research cohort, all in lockstep.

HOW VALUES AND ASSUMPTIONS DOMINATE A CITY'S WILDLIFE MANAGEMENT

From the ACT case I learned how values become embedded in an academic discipline.

The revised 2017 management plan for kangaroos revealed language, traditions and assumptions familiar since colonial days. It starts by reminding today's citizens of historical and oral

accounts that kangaroos on ACT lands were “in plague proportions” in the latter 1800s “when kangaroo and wallaby drives were carried out and states introduced bounties”. Another way to read this is that the early colonists found kangaroos were widespread and plentiful.¹³

The plan says that natural densities could not be determined a hundred years later because the kangaroo was widely shot by landholders “to reduce perceived competition with sheep, provide food for dog packs, to reduce damage to fences and for recreation” and therefore kangaroos were considered “relatively uncommon”.¹⁴

By the mid-1990s, regional surveys (including in a number of large national parks) indicated numbers averaged around two-to-three animals per hectare. In reality, numbers would have fluctuated with weather conditions and human development activity.¹⁵

The first ACT Kangaroo Management Plan, in 2010, compared this regional average kangaroo population unfavourably with the goal of one or half a kangaroo per hectare typical of culled (shot) rural grazing properties. The point? To ‘save grass’ – a cry heard since the 1800s. Around that time citizens started being fed the narrative that the ACT was suffering uniquely high levels of kangaroo numbers and something had to be done.¹⁶

If you consider that a hectare is about the size of an international rugby football field, and mentally place a kangaroo or three on that field, keeping in mind that these social animals like to mob up from time to time just like humans watching a rugby match, you start to see what the contemporary ‘plague proportions’ and ‘overabundance’ actually mean on the ground. The 2010 kangaroo management plan did admit that ‘overabundance’ is a social and political value judgement, and not a scientific concept.¹⁷

The ACT parks bureaucrats and their consultant researchers were warned in 1997 by a senior CSIRO wildlife ecologist that it was an error to treat wildlife populations like domestic stock in

determining fixed optimal numbers, since numbers invariably fluctuate with environmental conditions – to no avail.¹⁸

A favoured narrative for lessening kangaroo numbers oft-repeated by officials and members of the public, not only in the ACT, is the argument that killing kangaroos saves them from starvation. In nature, most adult kangaroos might eventually starve in old age because they run out of teeth. Less often acknowledged is that starvation is also the likely fate of unweaned juveniles whose mothers are shot or run over. Or that starvation of this nature is the long-term fate of all grass-dependent animals, including the domestic ones if they live long enough.

This argument is often coupled with one that says there are now less Indigenous human hunters and dingos (which the ACT has poisoned using kangaroo carcasses and 1080).

‘TRUST US WE’RE SCIENTISTS’ MUZZLES PUBLIC

With one argument or another, ‘Trust us, it’s based on our science,’ has been the core of the message to the public, amplified by the mainstream media. Yet by 2017, eight years (or longer going back to the first 2004 cull at Googong) had passed without any actual evidence of benefits or impacts of the million-dollar kangaroo killing program. Under pressure from critics, and the occasional question from a politician, the ACT Department of Territory and Municipal Services belatedly posted eight academic papers, calling them the scientific backbone of their management of kangaroos. One merit of this approach was that most media reporting to the public might not have time to read or judge them individually, nor would the public itself, nor would politicians.¹⁹

David Brooks, emeritus Sydney University English professor and an author who has written on ethical relationships with animals, did take a good look in 2016 for accepted norms of academic papers and how they are presented to the public. He

confirmed what a lay person could see: that these papers did not validate culling kangaroos. He concluded (without criticising the intent or work of the researchers involved), that the way the ACT government used these eight papers was an intellectual insult to the people of Canberra.

One paper is a widely-shared study that has been used to claim the macropods are eating reptiles out of house and home (discussed in the previous chapter). Two of the papers were co-authored by the government Senior Ecologist, closely associated with the ACT killing program's assumptions and design. The papers treat the government's 2010 kangaroo management plan as a scientific authority.

Brooks noted all eight papers were co-authored by a small cohort of ACT-based researchers, locating at the CSIRO, the University of Canberra's Institute of Applied Ecology, and the ANU's Fenner School of Environment and Society. All the institutions are partly funded in some manner (scholarships, research partnerships, etc.) by the ACT government, he noted. Some of the same names advised the ACT government from the start and some were consulted to voice outrage at Robin Tennant-Wood's Environment Centre report.

I asked Steve Garlick – who frequently published academic papers in his time as an economics professor and more recently papers on wildlife behaviour research – to apply his critical lens to the ACT's declared evidence that kangaroos do damage. In his reading, “if you analyse the research papers backing the cull you find that they range from the irrelevant to the unproven to the speculative in terms of the role of kangaroos. The research papers show the ACT is sponsoring research which either assumes kangaroos do damage to other creatures just by measuring grass height or they use the lives of kangaroos as experimental units: If we kill this many kangaroos, can we count more beetles or skinks or legless lizards?”

In fact, looking at the eight papers as a lay reader, it was not hard to see some methods and conclusions appeared irrelevant to the issue of kangaroos in an environment, while others didn't support the government's claims about what they demonstrated.

There is another problem. Saving the temperate grasslands and ecosystems is the rationale for these eight papers. Brooks said aloud what many observe privately: "Nothing destroys an area of natural temperate grassland like a new suburb."

You have to enter beliefs, values, and assumptions into the mix to get what is claimed to link these bits of research to kangaroos.

That assumptions are deeply embedded became transparent when in 2017 I filed a freedom of information request with the ACT government, asking for evidence of outcomes and impacts of the kangaroo management program. I asked also for evidence of sustainable kangaroo populations and the basis for the one-kangaroo-per-hectare goal. Several ACT research documents were released that reveal measuring grass height and mass remains the basis for data collection. The documents failed to show any benefits of the program other than taller grass.

A common thread of this batch of documents is the guiding assumptions about negative impacts on ground cover, also demonstrated by the eight papers. The in-house research, released under FOI, is everywhere prefaced with code phrases that kangaroos need to be "actively managed" to prevent "overgrazing." Paraphrased, the assumption is: everyone knows kangaroos damage the grass environment and we have to cut the density.

CANBERRA NARRATIVE DISMANTLED BY REVIEW

The released documents included a 2014 independent CSIRO analysis of ACT research data and sites. That document dismantled the government's position and assumptions. Unlike the government claims, the reviewers could not find any negative

impacts on reserve vegetation where kangaroos graze at (the natural) two-to-three kangaroos per hectare.

Nor could they identify an optimal density beyond which “vegetation richness, diversity and overall condition declines”. In other words, they found no evidence to back the goal of one kangaroo or less per hectare to save the ground cover habitat for this or that species dependent on the existing ecosystem.^{20,21}

Refreshingly, the CSIRO authors Robert Godfree and Lyndsey Vivian are experts in the fields they are commenting on: one a botanist and ecologist, the other a specialist in native vegetation ecosystems. Their brief was to review the government’s data collection from 2009, 2012, and 2013.

They started by asking an assumption-free scientific question: whether relationships exist between kangaroo density and vegetation condition in the Canberra grasslands and grassy woodlands. The authors checked ACT-studied sites with densities up to three kangaroos per hectare, and could not say that vegetation indicators had declined on any front up to that number of animals.

They noted that the ACT’s claims that endangered species welfare is negatively affected by unmanaged kangaroo numbers of two-to-three per hectare was not based on evidence from the official data – it was merely referred to as being monitored.

This review supported previous criticisms about the lack of variables studied by the ACT in-house ecology team, particularly the weather: “At the site level, changes in vegetation structure and composition varied more between years, which may be associated more with different prevailing climatic conditions, than with kangaroo densities.” Other variables can also affect a site’s vegetation structure. That includes grazing history, previous fire and drought, soil conditions, and nutrients. Godfree and Vivian stated all of this had more effect on site condition than did kangaroo density.

The sobering CSIRO review provides a rare counterweight to the narrative about kangaroos damaging biodiversity or the ecosystem that also justifies the killing of mothers and joeys, a narrative spreading out from the ACT.

Apparently disregarding this fact-checking review, in 2018 ACT government ecologists released another science-cloaked report doubling down on their goal of somehow achieving a uniform number of one kangaroo per hectare on their reserves.

That report admitted the program was aligned with land management goals for production properties on surrounding leased government land, some of which was being converted to new subdivisions. The 2018 document's language – including talking about a “rural cull calculator” – did nothing to dispel the impression that this is a desktop exercise – viewing the animals as units to be killed across the board for a predetermined outcome.²²

The 2019 kill target of 4,000 Eastern Grey kangaroos was the largest ever since this program began. I wondered whether there were 400 kangaroos left on Canberra reserves, let alone 4,000. Soon there would be the announcement of locking in contract killers for another five years.

Again, the question: why have the ACT ecologists and rangers worked so hard to make kangaroo slaughter a normal feature of life in the national capital? I found no other reasons than that it a well-resourced program for the parks' and ecologists' budgets. Weed invasions or concrete may be the biggest threats to native grassland biodiversity, but killing kangaroos is a visible sign of doing something if you can overlook the bloodshed. Additionally, the public may also be witnessing a multi-year lethal experiment bound for a few journal articles and thesis opportunities in applied ecology and conservation biology.

All three political parties in ACT government – Liberal, Labor, and the ACT Greens – have defended the kangaroo slaughter for

more than a decade. Labor, with Greens support, has presided over most of it.

The payoff for the politicians is not hidden: expansive new subdivisions, or intensive bike trails such as on Isaacs Ridge, will suffer no wildlife collisions; no need to bother with planning wildlife corridors or translocation; and motorists stop writing irate letters about car insurance claims. Sanitised narratives about “humane” killing, amplified by media, stymie debate – or at least create immobilising uncertainty.

With no end in sight, cloaked with science but dog-whistling ‘pest’, the Bush Capital politicians, parks bureaucrats and allied scientists, have destroyed the structure of local kangaroo mobs. They’ve hired gunmen who are obliged to shoot adults and decapitate or bash small joeys, and bury them all in pits while leaving at-foot siblings to starve or jump in front of cars. They have traumatised residents and gone to great lengths to silence some of those with a more sympathetic and informed view of the kangaroo’s place in the environment.

In just a decade, the national emblem in the national capital has been ever more bloodstained and diminished, rather than being celebrated as a vital player in biodiversity and as the international icon of Australia that kangaroos are.

POSTSCRIPT

The shooting continues around Canberra suburbs, even when the official ‘cull’ has been closed. Leaseholders on surrounding pasture land get generous tag quotas to kill the wildlife, as the statistics make clear. The graziers and shooters can apply for silencer permits so few know how close the shots are coming to suburban houses.

On 6 July 2018, a woman from the Canberra suburb of Spence wrote this public Facebook post: “Shooting still tonight in Spence ... another sleepless night listening to death. Mongrel bastards. It’s not

a nature reserve across the road from my house. I think it might be the CSIRO.”

A night earlier she had written: “Shooting again tonight so close to my house I was able to film them. Environmental Protection Agency told me to call the police ... police told me to get stuffed basically.”



Photo: Maria Taylor