

CDEA/WaCC CELEBRATION OF THE END OF THE YEAR & WaCC's 10th ANNIVERSARY

Everybody in the community is invited to attend this free event. For catering purposes, please email Shealagh Walker at shealagh1@bigpond.com.

“Since 1991, the Centenary Suburbs and nearby areas have benefited greatly from the addition of new bushland and parkland areas. We at CDEA are very proud of the large part which we have played in the creation of these new areas for the benefit of all residents - and our wildlife.” (www.cdea.org.au)

The Wolston and Centenary Catchments has a mission “To protect and enhance the natural environment and resources within and around Wolston and Centenary Catchments.” (www.wacc.org.au)

The 2018 End of Year Celebration will commence with a nature walk through Pooh Corner, followed by morning tea in the large shelter shed.



“Geckoes Wildlife has been in operation for nearly twenty years and during that time acquired an amazing collection of wildlife. ... Our Presenters are appropriately qualified, have blue cards for working with children, are passionate about sharing their knowledge on Australian wildlife and the environment.” (www.geckoeswildlife.com.au/)

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Dedicated to a better Brisbane

Contact Editor at editor@cdea.org.au

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**End of Year Celebration –
 SUNDAY 2nd December
 8.30 – 11.30am
 Pooh Corner
 Environment Centre
 100 Wolston Road, Wacol**

Program:
 8.30-9.30am – Nature walk through Pooh Corner
 9.30am-10.30am – FREE Morning tea
 10.30am-11.30am – Geckoes with wildlife including a **wombat!**



HOW DAMAGING ARE FERAL DEER, REALLY?

(Report by Dr Chris Wiley)

Six species of deer have established feral populations in Australia. Four of these are found in southeast Queensland, and one (the Rusa Deer, *Rusa timorensis*) is abundant in the Centenary Suburbs of Brisbane

(www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/land-management/health-pests-weeds-diseases/pests/invasive-animals/restricted/rusa-deer).



Rusa stag in Mount Ommaney (8am, 17th April, 2011; Unknown photographer)

As large, hooved animals with broad habitat preferences, deer have the potential to cause widespread damage to a fragile Australian landscape that is ill-equipped to cope with such pressures. Just how much damage is not fully understood, and even more poorly publicised.

Most Australians are familiar with the devastating impacts of foxes, goats, rabbits or pigs on various ecosystems across the country, but how do deer stack up?

The Australian Government lists eight feral animals as “key threatening processes”, which cause one or more native species to become threatened with extinction. Feral deer are not included on this list. Does this mean they can’t be that bad? The short answer is, not necessarily. The main problem is that most Australian deer populations have only undergone major expansions in distributional range and density in the last couple of decades, so until now we didn’t have adequate data to assess how serious these impacts may be. For example, the Centenary population of Rusa Deer only

became established in the late 1990s (from stock escaped from a deer farm in Pullenvale). Over the 20 years since, this population has continued to expand in size and pressure it exerts on our local bushland, so it is only now that we can witness the full extent of impacts.

There are two main ways in which scientists can study the impact of deer. The first is the classic “before and after” study, whereby one compares characteristics of bushland after deer invade with its characteristics beforehand. The second is known as an “exclosure/enclosure” study, whereby fences are used to contain or exclude deer, and within the fenced area is compared to neighbouring bushland. Data gathered by us in the Jindalee Bushcare Group over the past 20 years uses both approaches.



Revegetation on left within fenced area contrasted with weeds and erosion caused by deer, on right, along Wilsons Walkway (Photo © Shealagh Walker)

Before I get to what we have observed along Wilson’s Walkway (see later article), I’d like to summarise the results from much larger studies across Australia and elsewhere. These have revealed a staggering array of environmental impacts:

- Deer reduce vegetation cover by defoliating young trees, stripping bark and breaking stems, killing even mature trees (see photo on next page).
- Rusa Deer in Sydney’s Royal National Park were recorded consuming 155 native plant species, including trees, shrubs, climbers, ferns, orchids, herbs, grasses, rushes and sedges (all major groups of plants!).



Left: Bark stripped from tree by hungry deer, and Right: Tree with knitted protector standing on trampled and eroded slope outside the lush deer-fenced bushcare area on Mount Ommaney Bushland Reserve. (Photos © Shealagh Walker)

- Deer grazing leads to a severe reduction in plant diversity within the understorey. In Sydney, for example, deer have caused 54% of the plant diversity in rainforest to be lost and 33% to be lost from open eucalypt forest.
- Deer can eventually lead to a simplification of the forest canopy, by only allowing a restricted suite of unpalatable tree species (in some places, only a single species of tree) to develop.
- The rutting and fighting of stags creates large patches of bare ground vulnerable to erosion.
- Deer activity is concentrated around waterways, and leads to degradation of water quality, erosion and soil compaction.
- Deer are known to spread weeds via their fur and faeces.
- Deer compete with livestock and native animals for food.
- In one study, deer caused a 37% drop in abundance of midstorey birds, and likely also impacted a wide range of other fauna dependent on the dense cover that deer remove.
- Deer transmit disease such as Giardia, Lyme's Disease and various livestock diseases.

At the Mount Ommaney Bushland Reserve, we have observed many of these impacts firsthand. Bird surveys undertaken in 1997-1998, just before the arrival of deer at Mount Ommaney, recorded a large number of species that have not been observed in the reserve in the past three years. In fact, 45% of bird species have disappeared from the Mount Ommaney Bushland Reserve. Not all of this loss of bird diversity is attributable to deer alone; some species are in decline across Brisbane and others probably couldn't sustain a viable population within such a small patch of bushland. Nevertheless, one group of birds has suffered the greatest reduction of all—the species that forage below two metres in height. This includes the quail, fairywrens, scrubwrens, whipbirds, finches and grassbirds, among other species. This suite of species has experienced a staggering 63% extinction rate at Jindalee Bushcare area, which is a 1.6 times higher rate of loss than among birds that forage higher up, beyond the main impacts of deer.

The loss of understorey birds is a direct result of the removal by deer of the understorey vegetation. This vegetation loss can be witnessed in person, by anyone interested to see for themselves, by visiting the southern end of the reserve (off Summit Place), where the Jindalee Bushcare Group has constructed a deer-proof fence to protect a small proportion of the reserve from the impacts of deer. This enclosure has only been in place for approximately three years (before this time, the fence was lower and regularly breached by deer), but the effect is striking. Outside the fence, the ground is trampled bare and supports a mass of weed species that are unpalatable to deer. Inside the fence is an oasis where native grasses, ferns and understorey shrubs flourish (see photo on previous page). Surveys we undertook two years ago showed that the density of native understorey species was twice as high in the fence as in grazed areas outside the fence, and weed density is three times higher where deer are present. These results closely resemble the data gathered elsewhere in Australia and paint a grim picture of the future of Australian bushland

as feral deer continue their expansion nationwide.

Information in this article comes primarily from a comprehensive review of deer impacts in Australia by Naomi Davis and colleagues, which is published in Wildlife Research (2016), as well as studies undertaken by Andrew Moriarty for his PhD thesis (2004). Data on the Mount Ommaney Bushland Reserve was gathered by the Jindalee Bushcare Group, and is currently unpublished.

WACOL STATION ROAD BRIDGE OVER WOLSTON CREEK

(Background by Vaughan Kippers)

Professor Darryl Jones from Griffith University is a “Behavioural ecologist now working in urban and road ecology with a particular interest in the many ways humans interact with and understand nature.” (see <https://experts.griffith.edu.au/academic/d.jones>). In August, he spoke at a public CDEA meeting. In Newsletter #35, we published a photo of the new wildlife sign on Wacol Station Road. There is also a sign on Wolston Road, but recent research (Blacker & Jones 2013) has shown that static warning signs are relatively ineffective. There is now a new bridge over Wolston Creek, which incorporates an underpass to protect local wildlife, primarily kangaroos. Next year, we hope to have an article on the design, implementation and effectiveness of this wildlife corridor, but I will now provide some background based on studies published by Professor Jones. Research based in South-East Queensland (Polak *et al* 2014) looked at the costs and effectiveness of different methods of reducing koala mortality: (i) no action, (ii) fences alone, and (iii) fences with designated crossings. A model, which could be applied to other species, was developed for use in cost-benefit studies. Traffic calming devices have been used in southeast Queensland to slow traffic and reduce road-kill rates (Jones *et al* 2014). In a recent review of scientific journal articles related to the effects of roads on macropods (kangaroos and wallabies), Bond & Jones (2014) concluded that the most effective option for road-kill mitigation

is a combination of wildlife exclusion fencing and road crossing structures, which is also the most expensive option. We are lucky in Centenary Suburbs, that the Brisbane City Council was willing to provide a budget that allowed implementation of these methods at the Wacol Station Road bridge over Wolston Creek.

A study based on the Compton Road overpass between Karawatha Forest and Kuraby Bushlands (pictured below: see <https://www.griffith.edu.au/research/impact/compton-road-wildlife-corridor>) has shown that when a road crossing is designed with larger mammal species in mind, there may be positive flow-on effects for other species, such as reptiles and amphibians (McGregor *et al* 2015).



We hope there are similar positive benefits of the Wacol Station Road underpass.

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NOEL AND CLAIRE HONOURED WITH THE NAMING OF WILSONS WALKWAY!

(Shealagh Walker, Co-ordinator of Jindalee Bushcare Group)

The wonderful walkway through the Mount Ommaney Bushland Reserve now has a new name, Wilsons Walkway. It has been named in honour of Noel and Claire Wilson who were the original co-ordinators of the Jindalee Bushcare Group (JBG).

The couple hesitantly volunteered to lead JBG in 1996, soon after the walkway had been constructed by Brisbane City Council. They had no previous experience but saw it as a way to meet new people as they had recently moved to the area.

They soon learned the ropes and went on to excel; JBG is one of the most successful and long-standing bushcare groups in Brisbane. Noel took charge of operations while Claire took charge of administration. They made a great team and were socially skilled. Sixteen years later, in 2012, they finally retired from being co-ordinators!

Earlier this year, the Wilson's adult 'children' decided they would like to honour their parent's outstanding contribution to the bushland reserve. They consulted the local council office and Councillor Bourke agreed with their sentiments and suggested naming the track 'Wilson's Walkway'; he was well aware of the Wilson's work over the years.

However, it was to be a surprise! How could they put up a new sign without Claire noticing? Luckily son Tim and his family were coming up to Brisbane in early September and they were all going for a week's holiday at the coast. There was much scurrying in the background between Tim, his siblings, myself and the local Ward office staff, going through council's hoops to get the sign approved, constructed and finally put up in time.



Noel, Claire, Tim, Sophie & Amanda Wilson at Summit Place end of Wilsons Walkway (8th September 2018 Photo © Chris Wiley)

Well, on that Saturday, 8th September, Tim told his parents when they got home to Brisbane and they were completely surprised and amazed! Everyone quickly spruced up and went down to the walkway entrance nearby on Mount Ommaney Drive. Current and former members of JBG were waiting, as well as other friends. Cr Bourke officiated and Noel and Claire unveiled the sign. Despite being quite overcome, Noel gave an excellent speech and thanked everyone. The event was celebrated with chocolate cake and coffee and a good serving of conviviality.

It is wonderful that Noel and Claire Wilson's huge contribution to the Mount Ommaney Bushland Reserve, its walkway and the community who enjoy it, will always be honoured in the renaming of the walkway to 'Wilson's Walkway'.

Readers are encouraged to contact the editor with ideas for future issues, or to submit articles for potential publication.