

### CONTENTS

Introduction	3
Declaration of the Georges River Koala National Park on government and private lands adjoining the River's western side and along the Georges River	6
2. The Minister for Planning and Public Spaces gazettes an improved State Environmental Planning Policy that requires upgraded protection of koalas in urban development areas, including wide corridors of 425m	9
3. The (draft) Campbelltown Koala Management Plan is gazetted and the Cumberland Plain Conservation Plan put in place before any further development	10
4. The Gilead development cannot expand into Stage 2, nor can SE Wilton expand into Allens Creek; and Koala movement corridors of 425m wide must be enforced	13
5. Effective Koala crossings on Appin Road linking to east-west corridors	18
6. Biobanking and offsetting requirements are a last and least used measure and must significantly protect the ecosystems and species for which they have been created. That is, they must be upfront, additional, proximate, environmentally zoned and be contiguous	19
7. Regeneration of cleared lands as koala habitat, extending corridors along drainage lines	20

### INTRODUCTION

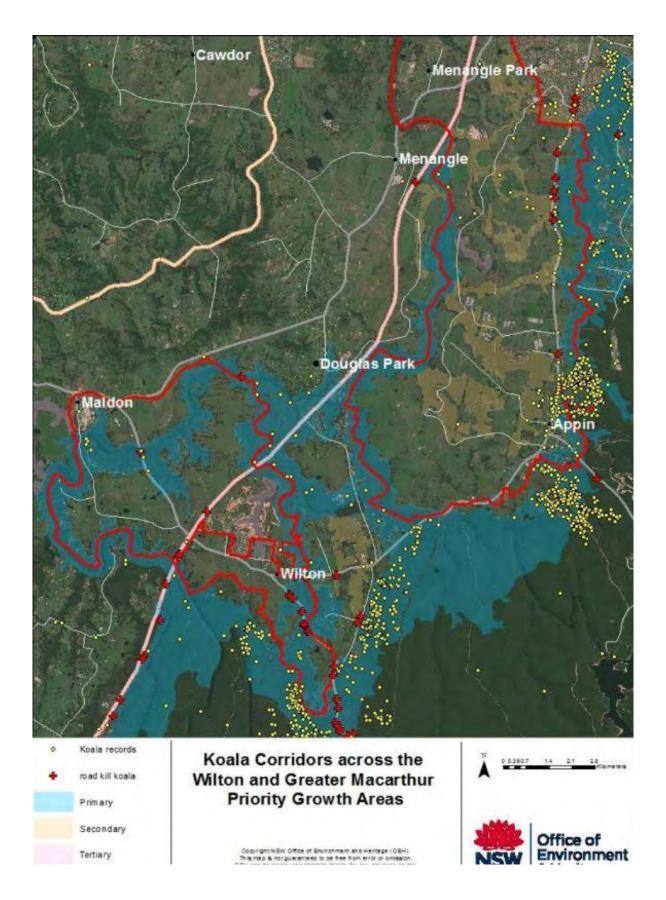
Habitat destruction was already moving Koalas towards endangered status before the mega bushfire season which caused devastation across New South Wales. Now every effort must be marshalled to protect this iconic species. Sydney's Macarthur colony has assumed an even greater importance and urgency for protection, as urban development, new major roads and dislocated habitat pose very significant threats.

The colony is exceptional. The fires at the end of the bushfire season (March 31st), have remarkably left the Macarthur colony unaffected. The health of the colony near Campbelltown has become 'critical' to the population's survival in the state'. The Macarthur Region contains the only population listed in NSW as likely to be growing (McAlpine 2015)<sup>ii</sup>.

The Koalas of the nearby Holsworthy Army Base survived near extinction in the 1930s when as few as 22 may have been left alive. From the mid-1980s they have been steadily recovering, and re-populating native bush in the surrounding Sydney suburbs and farmlands that used to be their preferred habitat. Now it is one of the only chlamydia free colonies in Australia. Estimates of the population are of at least 500 Koalas in Campbelltowniii and another 500 in Wilton.







Map 1: Koala habitat and corridors (blue and kaki areas); yellow dots (Koala sightings); red dots (road deaths).

The NSW Chief Scientist featured the Campbelltown colony in her 2016 report on the status of the Koala in NSW:

The current population within Campbelltown LGA is best described as stable or increasing, acknowledging that the population is low and always has been (Close, Ward, & Phalen, 2015). The Campbelltown case makes the point that a low density population does not lead to the conclusion that it is in decline or unviable. The Campbelltown koala population is the longest known koala population to Europeans in Australia, with the first sighting recorded in January 1798 (Lunney, Close, Bryant, Crowther, Shannon, Madden, & Ward, 2010). This population has persisted through early settler land clearance and a series of fires last century. Close et al. (2015) provide findings from a 20- year radiotracking study showing that female koalas lived long lives and produced multiple offspring.

Action needs to be taken now to ensure its survival. Gilead (the narrowest section between the Nepean and Georges Rivers) and Wilton (the southern section) - bookend the area being sliced up for development (see Map 1).

Notably, the then Department of Planning and Environment in its 2018 interim plan for Greater Macarthur highlighted, 'At the heart of Greater Macarthur, a koala reserve will secure habitat and movement corridors with complementary actions to make the region a koala friendly community.'

Not only should large patches of remaining habitat be preserved – wildlife corridors are vital especially in an urban setting. A prime example is the Gilead development due to its position. Gilead sits at the crossroads of the vital north-south and east-west links between and along the Georges and Nepean Rivers. Lendlease's development will impede the retention of a resilient colony.

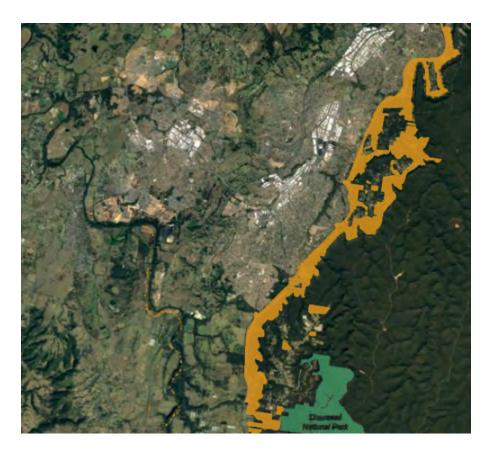
Total Environment Centre proposes seven actions that need to be implemented to ensure the colony survives and thrives.

- 1. Declaration of the Georges River Koala National Park on government and private lands adjoining the River's western side and along the Georges River.
- 2. The Minister for Planning and Public Spaces gazettes an improved State Environmental Planning Policy that requires upgraded protection of koalas in urban development areas, including wide corridors of 425m.
- 3. The (draft) Campbelltown Koala Management Plan is gazetted and the Cumberland Plain Conservation Plan put in place before any further development.
- 4. The Gilead development cannot expand into Stage 2, nor can SE Wilton expand into Allens Creek; and Koala movement corridors of 425m wide must be enforced.
- 5. Effective Koala crossings on Appin Road linking to east-west corridors.
- 6. Biobanking and offsetting requirements are a last and least used measure and must significantly protect the ecosystems and species for which they have been created. That is, they must be upfront, additional, proximate, environmentally zoned and be contiguous.
- Regeneration of cleared lands as koala habitat, extending corridors along drainage lines.

DECLARATION OF THE
GEORGES RIVER KOALA
NATIONAL PARK ON
GOVERNMENT AND PRIVATE
LANDS ADJOINING THE
RIVER'S WESTERN SIDE AND
ALONG THE GEORGES RIVER

Not only are new conservation reserves and corridors essential to protection of Koalas, but also they can be the foundation of regional tourism activity in western Sydney interlinked with the new Badgerys Creek Airport and associated development. The NSW Chief Scientist noted:

Nature-based activities, combined with Australia's unique flora and fauna, are a major source of tourism. The study by Hundloe and Hamilton (1997) conducted a survey of departing international foreign tourists, and provided the following insight: when asked which animals they particularly wanted to see in Australia, 72% of respondents nominated koalas, making them the most popular choice (followed by kangaroos at 66%). Vi



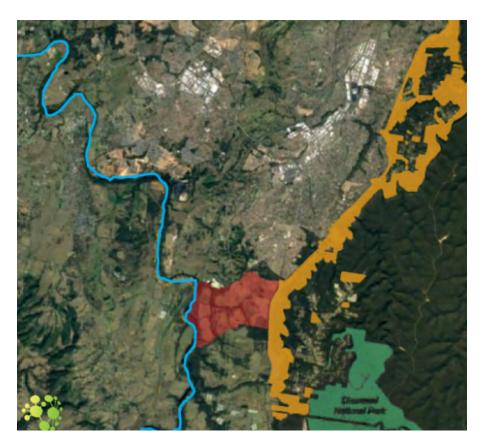
Map 2: Georges River Koala National Park: Part One

### Part 1

Incorporate the lands acquired for the Georges River Parkway as the backbone of the 'Georges River Koala National Park', and then add State Reserves, Crown land and Council reserves east of this Parkway (and east of Appin Road). The few private property lands that break the contiguity of the connection down to Dharawal National Park to be acquired, mainly through offsetting.

### **Benefits**

- 1. Allows north-south Koala movement along the Georges River so the unique Chlamydia free, Campbelltown colony can escape around suburbia.
- 2. Provides east bank protection to the upper Georges River, thereby minimising disturbances within the water catchment and providing migration corridors for endemic flora and fauna species.
- 3. Removes the threat to Koalas and other species posed by the planned Georges River Parkway and any future infill housing subdivisions.
- 4. Lays down green infrastructure in an expanding urban area and a possible Koala tourism industry.



Map 3: Georges River Koala National Park: Part Two (marked in red)

### Part 2

The Lendlease Gilead land is of no particular importance over any other developable land. However its connectivity at the narrowest distance between two major rivers is of regional, if not national significance. The adjacent nature reserve of Noorumba and the biobank site of Beulah are fragmented but rich patches of habitat. Using Gilead to connect them and the Georges and Nepean Rivers is a game changer for biodiversity and connectivity. It also provides an impressive intact colonial landscape, buildings and indigenous heritage sites.

### Benefits

- 1. Allows east-west Koala movement from the Georges River to the Nepean River at the shortest and most northerly point.
- 2. Provides connection between the Blue Mountains and Holsworthy colonies.
- 3. Creates a tourist attraction that incorporates the original colonial landscape and could house a Koala Hospital and Sanctuary.

# THE MINISTER FOR PLANNING AND PUBLIC SPACES GAZETTES AN IMPROVED STATE ENVIRONMENTAL PLANNING POLICY THAT REQUIRES UPGRADED PROTECTION OF KOALAS IN URBAN DEVELOPMENT AREAS, INCLUDING WIDE CORRIDORS (425M)

It is questionable that the new NSW State Environmental Planning Policy No 44 – Koala Habitat Protection (SEPP 44) gazetted on 1 March 2020, will prove effective in protecting koalas and the mounting threats to them. While it contains improved definitions of habitat and feed trees, subsequent conservation action is not assured. The Environmental Defenders Office has a number of concerns: vii

- Developments with serious or irreversible impacts can still be approved
- Comprehensive Koala Plans of Management remain voluntary for councils
- The SEPP only applies to council approved development, not major projects
- Climate change considerations are not included
- Small koala habitat areas (these could be linked and expanded into corridors) 1ha or less are excluded
- A new guideline only needs to be considered by consent authorities
- Monitoring, reporting and compliance provisions have not improved.

The SEPP applies statewide, but of particular concern to the protection of the Macarthur colony is that the Campbelltown Koala Plan of Management is not required to be gazetted and there are no specific and quantitative measures for corridors in the plans or where a plan is not available.

## THE (DRAFT) CAMPBELLTOWN KOALA MANAGEMENT PLAN IS GAZETTED AND THE CUMBERLAND PLAIN CONSERVATION PLAN PUT IN PLACE BEFORE ANY FURTHER DEVELOPMENT

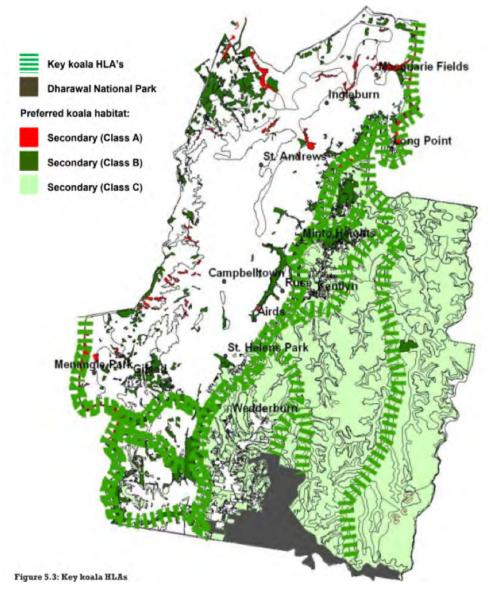
Best practice planning is essential to the future ecology of the region. Koala corridors are vital and are recognised generally as such in the new Koala SEPP and acknowledged by the NSW Chief Scientist (2016):

Koala populations need large areas of connected habitat to maintain their viability. Habitat loss and fragmentation has resulted in population decline and has been identified as a significant threat to the species persistence in NSW.

The function of these corridors within Gilead for example, has been long highlighted as vital to Koala survival (Ward 2002):

There is a need to build resilience into these recovering koala populations so that they are capable of better withstanding the impacts of future development and stochastic impacts such as fire. ... In order to do this, viable linkages and associated habitat patches need to be secured across the landscape. ix

The Campbelltown Koala Plan of Management (CKPoM) a collaboration between Campbelltown City Council, the NSW Office of the Environment and Heritage (OEH) and Biolink (an independent expert), clearly identified koala corridors in the 2016 CKPoM. The map below, taken from page 31 of the CKPoM showing Gilead in the extreme bottom left corner, identifies two east-west Habitat Linkage Areas (HLAs) connecting the Georges River to the Nepean River, and one north-south HLA following the Georges River. This is logical and essential, as to the immediate north is suburbia.



Map 4: CKPoM Corridors

Nevertheless, development pressure has been brought to bear to weaken Koala protections, when they should be paramount. Lendlease and the road building agency, RMS in one paragraph in a 2018 co-authored report dismissed these corridors out of hand:

Due to the fragmented and relatively small extent of Koala habitat, limited existing records, the proposed significant increase in future residential development to the west of Appin Road and the associated increase in edge effects detrimental to the Koala, the Secondary east- west corridor identified within the draft Campbelltown Koala Plan of Management (CKPoM) (Biolink Ecological Consultants 2016) for the study area is unlikely to be of vital importance to the local Koala population. \*

This expedient paragraph to avoid having to consider building wildlife bridges or tunnels, was then used to abolish the need to establish the need for any accommodation of Koalas in Gilead - effectively a localised Koala extinction plan to support residential development. Exclusion fencing along Road was supported to keep Koalas from Lendlease's possible developable areas. The collateral damage would be to sterilise existing Koala biobanks (Beulah & Noorumba) also identified in the CKPoM as important HLAs.

Perhaps most concerning is that OEH (now part of DPIE) put aside their own co-authored CKPoM of 2016 that highlighted HLAs, and protected these existing Biobanks in 'Conserving Koalas in the Wollondilly and Campbelltown Local Government Areas'. The last paragraph of this obsequious report mimics Lendlease's previous paragraph:

Exclusion fencing progressively built along Appin Road would prevent east-west koala movements across the Greater Macarthur GA. Underpass structures would need to be built to provide east-west access to koalas. However, we do not consider the east-west corridors essential for the long-term survival of the regional koala population. Koalas could continue to move through the landscape via primary movement corridors, rather than via the east-west secondary corridors. The distance from the top of the Georges corridor to the Cataract corridor is approximately 15 kilometres and is within the distance that koalas can disperse. Allowing koalas access to the secondary corridors would expose them to threats associated with residential areas and would be inconsistent with the second key principle of our strategy to conserve these koala populations (to separate koalas from residential areas). xi

However, a key expert in his attached review of the report, did not endorse this. Dr. Steve Phillips is critical of its application in Campbelltown, highlighting the importance of east-west connectivity:

I remain concerned at the long-term conservation implications of the report should the recommendations proceed without further expansion. Specifically, the recommendations insofar as the relate to the southern habitat areas needed to be extended to the another as well (ie. South Campbelltown / Macarthur PGA)

where the optimal levels of occupancy by Koalas has been identified within identified linkage areas and there is an obvious need for east-west connectivity to be maintained, rather than discounted. Because of this I am strongly of the opinion that the report has yet to effectively accommodate the conservation needs of the koalas in the Macarthur Priority Growth Area. \*ii

In addition to the CKPoM, the NSW Government is developing a Cumberland Plain Conservation Plan for Western Sydney to help balance the future needs of the community with protecting threatened plants and animals in for the long term. The Plan covers an area of around 200,000 hectares and spans across eight local government areas: Wollondilly, Camden, Campbelltown, Liverpool, Fairfield, Penrith, Blacktown and Hawkesbury. Only relatively small areas of native vegetation remain.

In 2018, the Department also established the Cumberland Plain Conservation Plan Community Reference Group with expert representatives nominated from across a range of peak environmental, aboriginal, landscape professional and scientific groups. Its role is to provide advice to the Department on strategic conservation planning in the Cumberland Plain and input on the development of the Plan. The Group has endorsed the strategic approach as the last chance to protect what's left and generate funding to restore key links.

There should be a moratorium on development until the Plan is completed, funded and gazetted.

### THE GILEAD DEVELOPMENT CANNOT EXPAND INTO STAGE 2, NOR CAN SE WILTON EXPAND INTO ALLENS CREEK; AND KOALA MOVEMENT CORRIDORS OF 425M WIDE MUST BE ENFORCED

Gilead: Stage 2 of the development is very poorly conceived for koala conservation and should be withdrawn. Map 6 below shows only limited corridors to be provided by Lendlease.

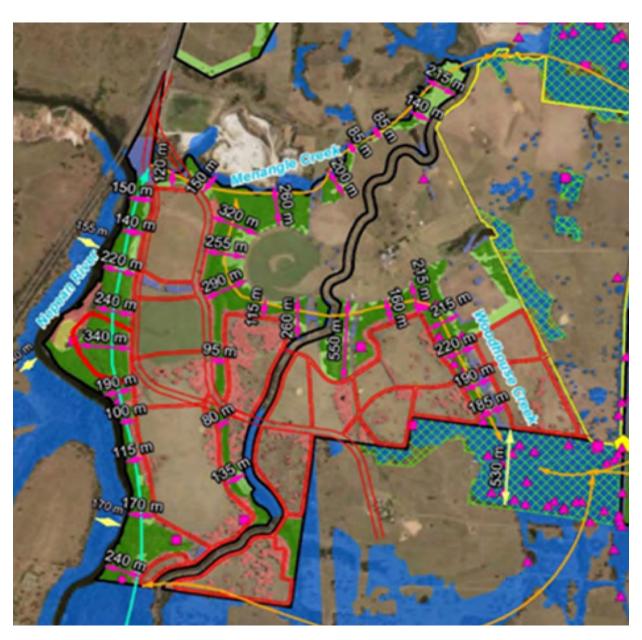
The optimal average corridor width for Koalas in Campbelltown has been calculated to be 425m, based on the home range size requirements for female Koalas in low carrying capacity landscapes (Biolink, 2018). TEC has taken the HLA widths of 425m as identified in the CKPoM 2016 and Biolink 2018 report and connected the red flagged areas in Gilead to HLAs with internal Strategic Linkage Areas of 200m as specified in the report (Map 5).



Map 5: TEC recommended Gilead Koala Corridors

The connection between the Menangle Creek and the Nepean River is of utmost importance for Koala movements. The area closest to the Nepean River is shared by both the Menangle Creek/Noorumba and the Waterhouse Creek/Beulah HLAs. Yet, as is demonstrated below, Lendlease cuts this figure down to 120m. In a shared HLA scenario this should be no less than 212.5m (425m/2).

The Menangle Creek/Noorumba HLA is the most important east-west HLA as it connects the two rivers at the shortest, most northern point. Here Lendlease cuts it down to 85m in one section. Lendlease provides a Woodhouse Creek/Beulah HLA of around 200m, not the 425m as required to be effective. The Nepean Creek is not identified as a HLA but a SLA. As such, a minimum requirement of 200m is required, however below it is shown to be cut down to 80m.



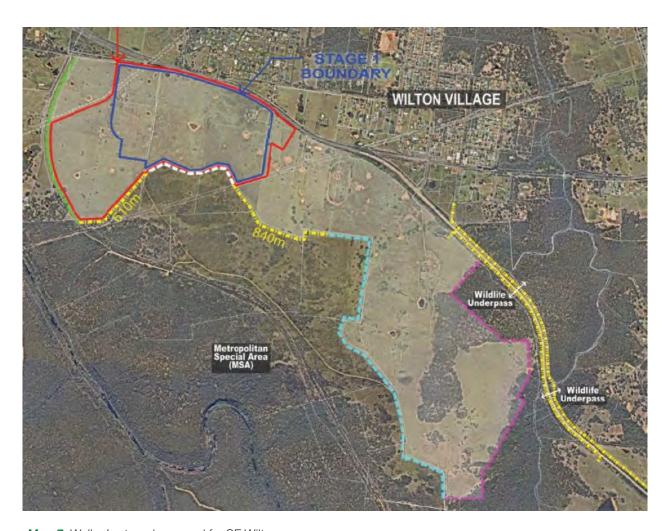
**Map 6:** Lendlease proposed Koala corridors at Mt Gilead. (Inquiry into Australia's faunal extinction crisis, Response to Submission 55 provided by Lendlease p. 15)

Lendlease has clearly interpreted the Biolink Report 2018 minimum width requirements of 200m as a maximum, rather than a minimum. This restriction, combined with the drastic reduction in connectivity, will severely diminish the ability of Koalas to connect with other local populations.

### Its position should be categorically rejected.

Wilton: Walker's South East Wilton development has not been through any Biodiversity Certification process. There are no offsets or biobanks being put aside, for the Koala habitat that Walker will exclude Koalas from. They are also dramatically constricting the Allen's Creek Koala corridor that has been identified as a primary Koala corridor.

Below is Walker's Koala Fencing proposal for SE Wilton (EMM Ward 11 Sep 2019 letter). The Allens Creek Koala Corridor, is at the bottom vegetated area (thumb shape) with a fence (shown in purple) preventing access.

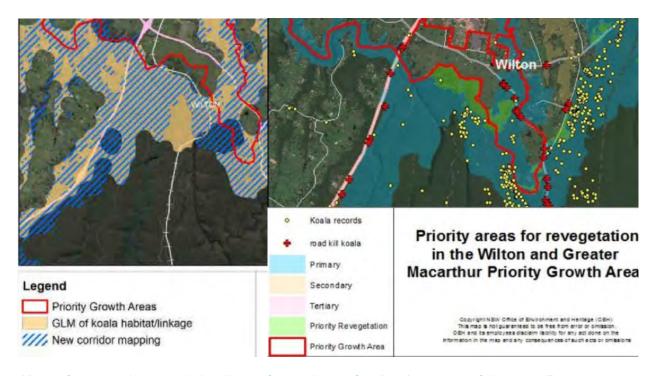


Map 7: Walker's staged proposal for SE Wilton

Walker's masterplan and the DPE's spot rezoning outlined in Schedule 1 makes a mockery out of all the Biodiversity Planning Principles outlined under chapter 5.3.2 of the proposed SE Wilton DCP. It states that the Precinct Schedule and neighbourhood plan must (relevant clauses applicable to Koalas below):

- 1. Provide buffers to conservation areas including existing and future bushland sites.
- 3. Be consistent with the Office of Environment and Heritage strategy to protect and rehabilitate preferred koala habitat and migration corridors.
- 5. Retain vegetation inside corridors in open space networks. Decision-making should not contribute to habitat fragmentation and where possible, should increase landscape connectivity.

OEH's own 'Conserving Koalas in Wollondilly and Campbelltown LGAs' (2018, p18), has identified the Allens Creek corridor as such a corridor, and that it is targeted for priority revegetation.



Map 8: Conserving Koalas in Wollondilly and Campbelltown LGAs (2018) p18 & p25, Office of the Environment and Heritage

However the most potent aspect of this report is how it relates to the 'Baseline Koala Survey for Wollondilly Shire' (April-May 2016) which tracked a tagged female Koala 'Xhondo' across South East Wilton's so called 'Koala thumb'; and the 'Greater Macarthur Investigation Area: Biodiversity Assessment Report' (September 2015) prepared for the NSW Department

of Planning and Environment by Ecological Australia, which also identified this 'Koala Thumb' as Priority Conservation Land under the Cumberland Plain Recovery Plan.

However Walker abandons all of the OEH and the DCP requirements.

Clause 14 of the DCP states that, Small patches of habitat should be retained where possible and measures taken to mitigate edge effects, maintain patch diversity and other relevant threats. The Walker (Risland) proposal for the Koala thumb shows all the small patches are to be removed - rather than mitigating edge effects - a road and a fence are plowed straight through it.

Clause 15 aims to *Protect the integrity and continuity* of wildlife by ensuring; a. Sufficient corridors to support koala communities, with a minimum preferred width of 425m for primary corridors. Nowhere on this site is a 425 m corridor protected or added to, and in fact exclusion fencing is not used to keep Koalas off the road as much as it is to keep them out of land put aside for them by cutting across E2 zoned land. The exclusion fencing then creates a convoluted maze for Koalas to pass through in order to get to a culvert to cross Picton Road.

The fencing plan must follow the 'Conserving Koalas in Wollondilly and Campbelltown LGAs' (2018) guideline that allows Koala movement across the whole of the Koala Thumb area, including all the E2 areas and the E2 encircled UD zoned areas. The diagram below is what is required.



Map 9: TEC identified Priority Conservation Land in green (under Cumberland Plain Recovery Plan) that is necessary for Allens Creek to be a viable Koala Corridor

### EFFECTIVE KOALA CROSSINGS ON APPIN ROAD LINKING TO EAST-WEST CORRIDORS

The CKPoM as previously identified calls for crossovers on Appin Road at Noorumba, Beulah and Ousedale. As noted above Lendlease attempted to bury the CKPoM. However, Lendlease has more recently put forward proposals to provide crossings over Appin Road at Noorumba and Beulah with two steel bridges. These will need RMS approval and are not proposed to be put on Lendlease land. The bridge design proposed has not yet been shown to facilitate Koala movement.





### BIOBANKING AND OFFSETTING REQUIREMENTS ARE A LAST AND LEAST USED MEASURE AND MUST SIGNIFICANTLY PROTECT THE ECOSYSTEMS AND SPECIES FOR WHICH THEY HAVE BEEN CREATED. THAT IS, THEY MUST BE UPFRONT, ADDITIONAL, PROXIMATE, ENVIRONMENTALLY **ZONED AND CONTIGUOUS**

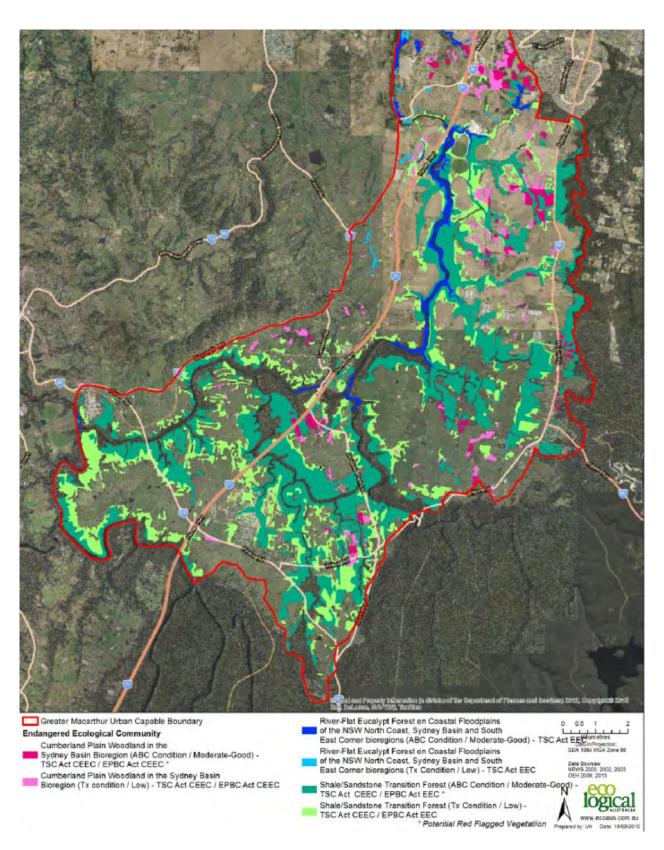
Biobanking and offsetting are intended to be a last choice with avoidance and minimisation of impacts preferred. However, too often it appears that development is the preferred pathway and offsetting and biobanking the poor compromise. This is particularly notable in the urban situation where it can be very difficult to find land with similar environmental values near to the impacted area. There are four issues important to biobanking and offsetting that have been undermined by previous practices:

- 1. Proximity: Lendlease chose land at Fernhill 40 km away from Gilead. Preference must be for on-site, then adjacent sites, then at least biobanks within the Macarthur Growth Area.
- 2. Zoning: The Macarthur Onslow/Mt Gilead and Noorumba/Mt Gilead biobanks have been zoned Public Recreation RE1 and Rural RU1 rather than Environmental E2. This has allowed Lendlease to include water detention basins, play equipment, etc, within them. Their primary purpose has been subverted to provide infrastructure needed for subdivisions.
- 3. Additionality: The Campbelltown Council reserve Noorumba was chosen as an offset but it is already a state biobank; a Council site; and a Bush Reserve maintained by volunteers. It provides no additional Koala habitat protection to replace impacted Koala habitat.
- 4. Shape and Connectivity: The green avoidance areas are vegetation islands, not connected to other areas of habitat. Biobank/offset areas need to be connected.

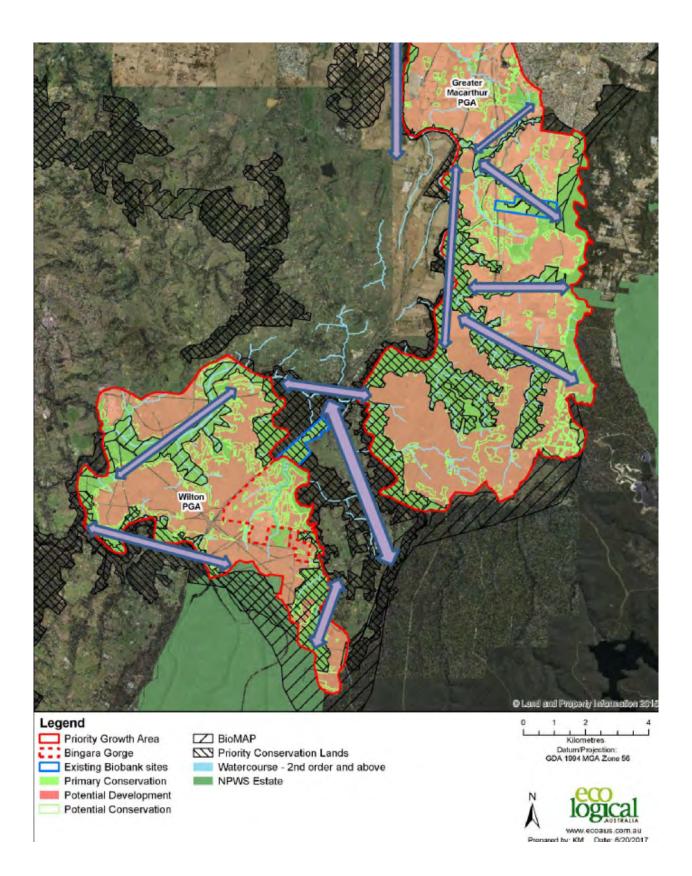


### PROTECTION AND REGENERATION OF PRE-DETERMINED LARGE VEGETATION SETBACKS BASED ON RIPARIAN ZONES

Regeneration of riparian zones as wildlife corridors will be essential: Koala corridors, ecological endangered communities and riparian zones and drainage depressions correlate strongly in the Greater Macarthur region, as shown in the EcoLogical maps below.



Map 10: Endangered Ecological Communities - Greater Macarthur 'Eco Logical Australia 2015. Greater Macarthur Investigation Area - Biodiversity Assessment. Prepared for NSW Department of Planning and Environment.' p18.



**Map 11:** Priority Conservation Lands & Connectivity - Eco Logical Australia 2015. Wilton and Greater Macarthur Priority Growth Areas - Biodiversity Study. Prepared for NSW Department of Planning and Environment.' p 32

The Habitat Linkage Areas that CKPoM has put forward also follow riparian zones, therefore using riparian zones as the ecological framework for wildlife connectivity are fundamental. They need to go beyond the Water Management Act 2000 riparian corridor requirements and become ecological links including areas not designated under the Act and exclude protection zones (see Map 5 for Gilead).

### The Blue-Green Grid

A green grid conservation plan that is easily enforceable across all public and private landholders, using existing 'lines' in the landscape such as riparian zones on which to a green grid can be built - will create contiguous wildlife corridors. Where there are threatened species such as the Koala, the size of these corridors across creeks and rivers needs to be 425m as identified in the CKPoM, HLAs and in the proposed SEWilton DCP. Biolink, OEH and Ward have established a similar necessary figure of between 400 and 450m for Koala corridors to be viable; with 200m Strategic Linkage areas to connect red flagged and threatened ecological communities also necessary (see CKPoM) - so there are no ecological islands within Greater Macarthur or the Cumberland Plain.

These setbacks will normally have existing vegetation as seen in the Ecological maps above, but where they do not, this will allow priority revegetation to fill in the gaps and opportunities for biobanking.

### Endnotes

- i Mid November 2019 Cheyne Flanagan, director of the Port Macquarie Koala Hospital on ABC702 radio stated, following the North Coast fires, that the Campbelltown colony had now become 'critical' to Koala survival in NSW.
- ii McAlpine et. al. 2015. Conserving Koalas: A review of the contrasting regional trends, outlooks and policy challenges. Biological Conservation 192, pp 226-236.
- iii 'Saving Our Species: Campbelltown Koala update', OEH 5 November 2018.
- iv Independent Review into the Decline of Koala Populations in Key Areas of NSW, 2016, p9
- v Greater Macarthur 2040, An interim plan for the Greater Macarthur Growth Area. 2018, p2
- vi Independent Review into the Decline of Koala Populations in Key Areas of NSW, 2016, p23

- vii https://www.edo.org.au/2020/02/20/koalas-nsw-new-laws-old-tricks/, accessed 28 April 2020
- viii Independent Review into the Decline of Koala Populations in Key Areas of NSW, 2016, page v
- ix Quoted in Biolink. 2018. Koala Corridor Project: Campbelltown & Wollondilly Local Government Areas. Biolink Ecological Consultants, Uki, NSW. Report to NSW Office of Environment & Heritage. p
- x Lendlease Communities, RMS. Appin Road Upgrade, Mt Gilead, NSW Biodiversity Assessment. October 2018 WSP, p 59.
- xi Conserving Koalas in the Wollondilly and Campbelltown Local Government Areas 2018 (OEH) and then in 2019 (DPIE).
- xii Dr. Steve Phillips in his Review of 'Conserving Koalas in Wollondilly and Campbelltown LGAs (2018) p45

## SAVE SYDNEY'S KOALAS CAMPAIGN

Total Environment Centre has been working with the local community and scientists to protect Sydney's Koala colony and we are starting to make progress – but there is much more to do. We have published this report to lay bare the essential protection measures and expose how the planning and development system can pervert good environmental outcomes. We need to keep campaigning!

If you would like to support the campaign, please make a donation at:

https://www.tec.org.au/save\_sydneys\_koalas\_campaign

