

The Following is “ In-Confidence” (Commercial-in-confidence outside the Govt Reports).

What is the Draft Cumberland Plain Conservation Plan?

The vision of the [Draft Cumberland Plain Conservation Plan](#) (the Plan) is to 'support Western Sydney's biodiversity and growth'. This means it will support the creation of infrastructure, housing and jobs for Western Sydney in a planned and strategic way that protects and maintains important biodiversity.

The Plan will deliver commitments and a series of planned and managed actions designed to improve ecological resilience and function, and offset biodiversity impacts from housing and infrastructure development.

The Plan will ensure long-term conservation outcomes in the Western Parkland City by avoiding and protecting important biodiversity in new development areas and in infrastructure corridors. Outside those areas, it will ensure biodiversity-related outcomes by creating or adding to public reserves (such as national parks), investing in biodiversity stewardship sites on privately owned land and restoring areas of native vegetation.

Which councils are covered by the Plan?

The Plan Area covers about 200,000 hectares across parts of eight local government areas. These are Blacktown City, Camden, Campbelltown City, Fairfield City, Hawkesbury City, Liverpool City, Penrith City and Wollondilly Shire.

What role will councils play in delivering the Plan's vision?

Local councils will play an important role in helping to implement the Plan.

The Department of Planning, Industry and Environment (the department) will support councils, providing guidance and information to ensure they can act in accordance with the Plan's environmental outcomes.

What new planning controls are proposed to support the Plan's implementation?

The Plan commits to introducing planning controls to support strategic conservation planning in Western Sydney and to deliver the Plan.

The [Explanation of Intended Effect](#) proposes a new SEPP for strategic conservation planning. It will introduce controls to:

- protect avoided land and ensure consistency with biodiversity approvals within nominated areas
- minimise impacts on land with regional strategic biodiversity values, identified by the Plan as the strategic conservation area.

The department is also proposing a Ministerial Direction under section 9.1 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) to protect avoided land and the strategic conservation area.

Where can councils access spatial information and maps on exhibition with the Plan and the *Explanation of Intended Effect*?

Detailed interactive maps that identify the categories of land in the nominated areas and the strategic conservation area can be accessed in the [Draft Cumberland Plain Conservation Plan Viewer](#) (the Plan Viewer) for public exhibition. The Plan Viewer has been developed to display information at a variety of scales, from local government area to individual property scale.

Mapping will be integrated into the ePlanning Spatial Viewer in the NSW Planning Portal once the Plan and the proposed SEPP are approved.

Do councils need to update their planning certificates or consider the Plan in development assessments?

What does the Plan mean for infrastructure development by public authorities?

The department proposes to introduce guidelines to manage the impacts of infrastructure development by public authorities on biodiversity matters protected under the *Biodiversity Conservation Act 2016* (NSW) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). The guidelines will include:

- requirements for public authorities to avoid, minimise, mitigate and offset impacts to biodiversity when undertaking essential infrastructure development on non-certified land in the nominated areas identified under the Plan
- planning controls for the strategic conservation area that the determining authority must consider when assessing activities under Part 5 of the EP&A Act
- mitigation measures to address indirect and prescribed impacts on threatened ecological communities and species from infrastructure development in the nominated areas.

What does the section 9.1 Ministerial Direction require?

Councils are required to address and follow Ministerial Directions made under section 9.1 of the EP&A Act when considering any planning proposal. The proposed Ministerial Direction requires the protection of areas identified as having strategic biodiversity value or land that development must avoid.

The Ministerial Direction will apply when a relevant planning authority prepares a planning proposal for avoided land within the nominated areas or for land within the strategic conservation area.

If the planning proposal is for avoided land, the section 9.1 Ministerial Direction will require a relevant planning authority to ensure the objectives of the environmental conservation (E2) zone are met. If the planning proposal is for the strategic conservation area, the relevant planning authority must consider the impacts on strategic biodiversity values.

Will councils be able to establish reserves to offset development under the Plan?

Councils are an important partner for determining sites for proposed reserves and properties for acquisition. Councils may play a role in establishing council reserves in the strategic conservation area. Establishing biodiversity stewardship sites on council reserves will also allow councils to access in perpetuity funding for managing the biodiversity values of these sites.

New reserves and additions to existing reserves will be included in the conservation lands established through the conservation program. The term 'reserves' in the Plan can refer to national parks, nature reserves, state conservation areas, regional parks (all managed by the National Parks and Wildlife Service), council reserves and community-based reserves, as long as they have secure (on-title) agreements in place and will be managed for conservation in perpetuity.

What role will councils play in overseeing compliance for the Plan?

To ensure that development is consistent with the Plan, there will be annual updates on the Plan's progress, a five-yearly review of the Plan's implementation, and regular auditing and reporting.

A compliance working group will be established, comprising the department, local councils and other relevant stakeholders, to prepare a compliance strategy to set out responsibilities.

Local councils will play a key compliance role, ensuring that conservation measures are implemented in accordance with the Plan. The Plan commits to providing funding for at least three council-based officers across Western Sydney to ensure compliance with the conservation program. These officers will work closely with council rangers to monitor activities such as illegal dumping and vegetation clearing.

How will the Plan's data inform councils' biodiversity planning and conservation management?

How will the Plan's data inform councils' biodiversity planning and conservation management?

The department has worked closely with councils through the local strategic planning statement (LSPS) process, to provide them with integrated datasets for the strategic conservation area. Councils can use these datasets in local and regional planning.

Data from the Plan could provide:

- input for councils biodiversity conservation planning priorities
- input to guide councils as they establish biodiversity stewardship sites on council lands
- data to support developing biodiversity strategies and plans, including for habitat corridors
- input for LSPS and local environmental plan reviews to help guide land-use planning for biodiversity conservation.

The IMPACT OF THE BLACK SUMMER BUSHFIRES-

This could include a "REVIEW" of the reasoning for "Urban Expansion of Western Sydney". And assess the area as a "Drought Free Habitat" that can be "Bushfire Safe" and below 500 m above sea level.

This is important when we “Benchmark” the Redland City LGA with the “fragmented landscape of Western Sydney”. So clearly there is potential” habitat” that can be “restored” for a wide group of Native Fauna, Not just the KOALA habitat of the Southern Sydney Koala Population. That has a population of 500 to 1000 and is disease free. The Redlands area has “ cost over 4,000 koala population” due to “Urban Growth”.

So in Western Sydney that could mean “looking for a suitable” 4000 Ha of safely connected habitat.

We could also consider a “WALKING TRACK” from Parramatta to the Blue Mountains. Plus a “General wildlife corridor” from Parramatta to Blue Mountains.

As the SPACE REQUIRED is not “clear” in 2020 era a “different”

“ Green Infrastructure Funding Model “ is required. Perhaps it can minimise the use of bio-diversity off-sets and instead allow “recreation” of more native fuana habitat, that may be funded by increases in FSR ?

The NSW GOVT’s has a prediction with Koala Habitat contracting across the Western NSW areas by 2070 era, so the long term importance of having a “DROUGHT FREE” with recycled Urban Water may have been over-looked by the “URBAN GROWTH TEAM” at NSW GOVT Agencies

The BLACK SUMMER BUSHFIRES can happen again.

“Expanding the potential Native Fauna Habitats within the Western Sydney Cumberland Forest conservation Plan could preserve KEY populations that were part of the 3 billion dead wildlife.

This can include a Platypus habitat trail, as in Melbourne there is Platypus within the Canals and waterways.

Southern Sydney Koala Population.

Estimates there is 500 to 1000 koala population, but the density is 1 koala per 10 ha or 20ha.

The ROAD CROSSING “safety solution” lacks safety standards use for Human kids crossing the street to the Primary School.

This “error” is happily on the FRONT PAGE of the Koala Report.

It shows a lack of aptitude for wildlife safety ?

This is also a problem within parts of South East Queensland.

So imagine an increase in KOALA POPULATION with a target of 1 koala per Ha. If that is possible with fertile Soil then an extra 5,000 Ha area may support an extra 5,000 koala population that could supply “Trans-location populations” to other parts of NSW to boost reduced populations.

The Victorian Govt has since circa 1900 been involved in “Translocation” of Koala Populations after nearly wiping out the population by allowing FUR TRADING. In NSW the NATIONALS Party have been supporting “Land-clearing” which reduces the Native Fauna Habitat,

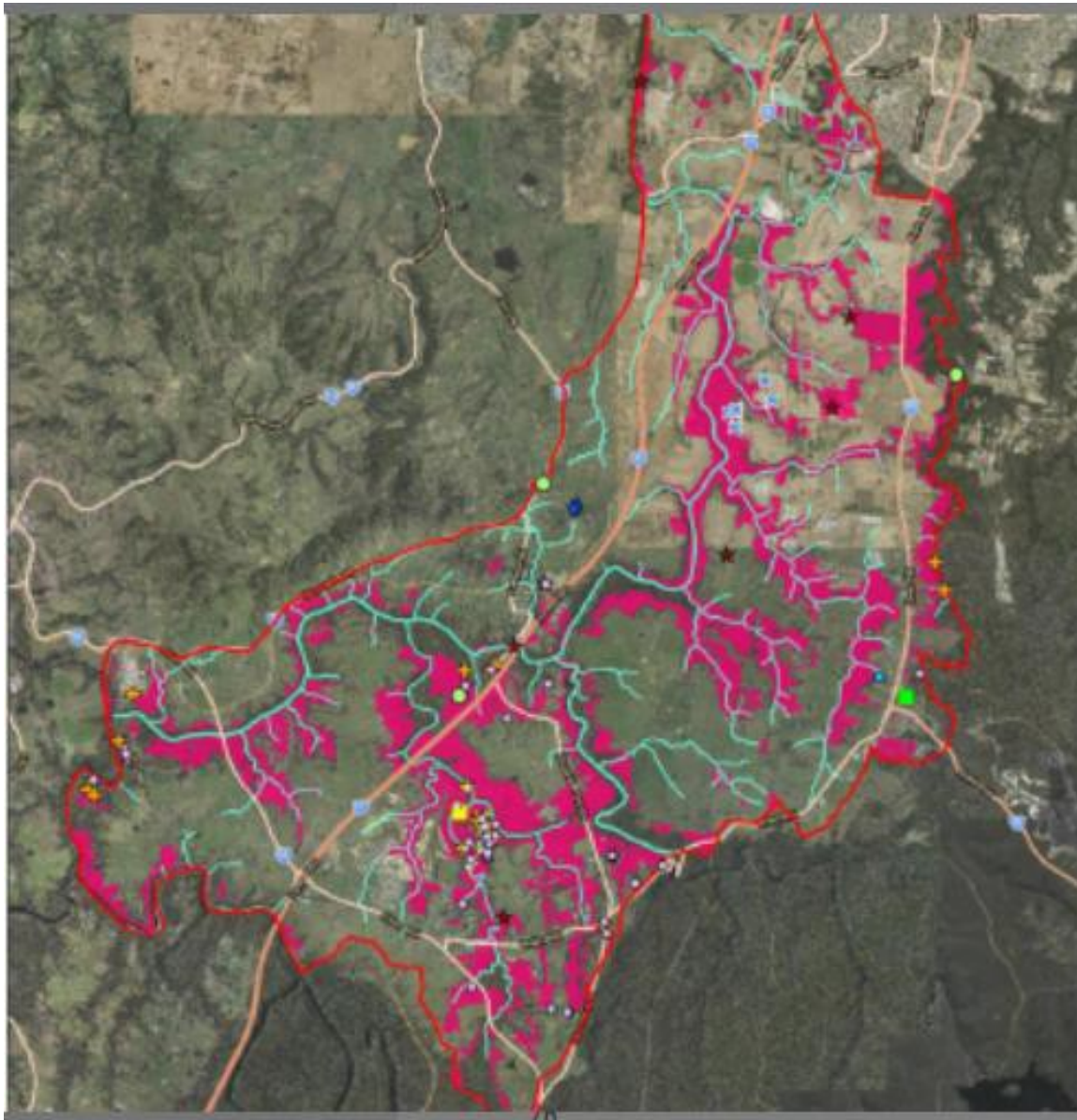
The EMU(Native Fauna) of “Western Sydney Parklands has been “removed?) so a “Space for the EMU’s could be found by using the 260 house site area in APPIN area. (perhaps with a Perimeter Fence as used by Bush Heritage NGO.

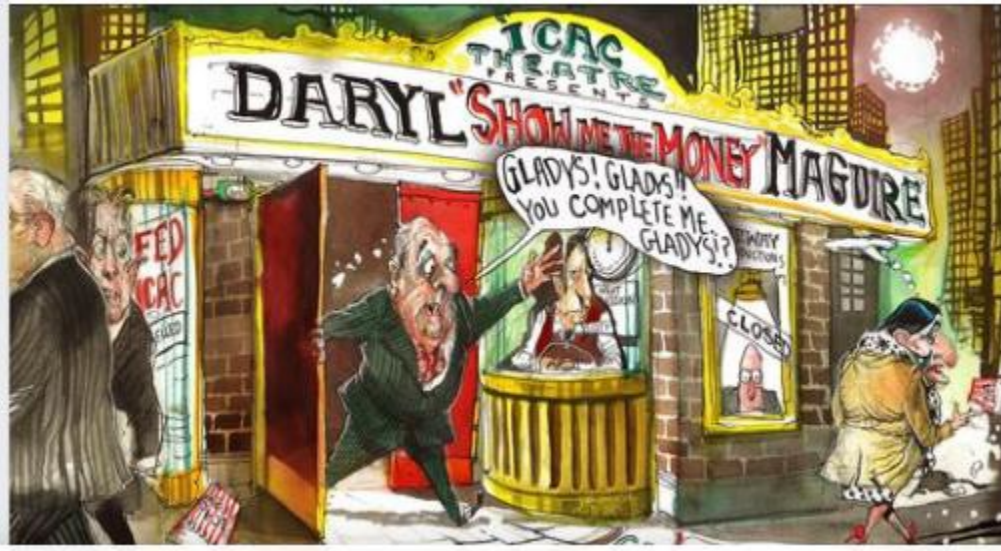
The “re-located housing lots” could be “transferred” into Regional “Stacked Housing” units with large Family sized single level dwellings. In Mosman, in a wealthy part of Sydney the Dwelling Units are stacked to provide two dwellings per original House site.

The Houses “Stacked” in Greater APPIN area could reduce the area needed for Human Living.

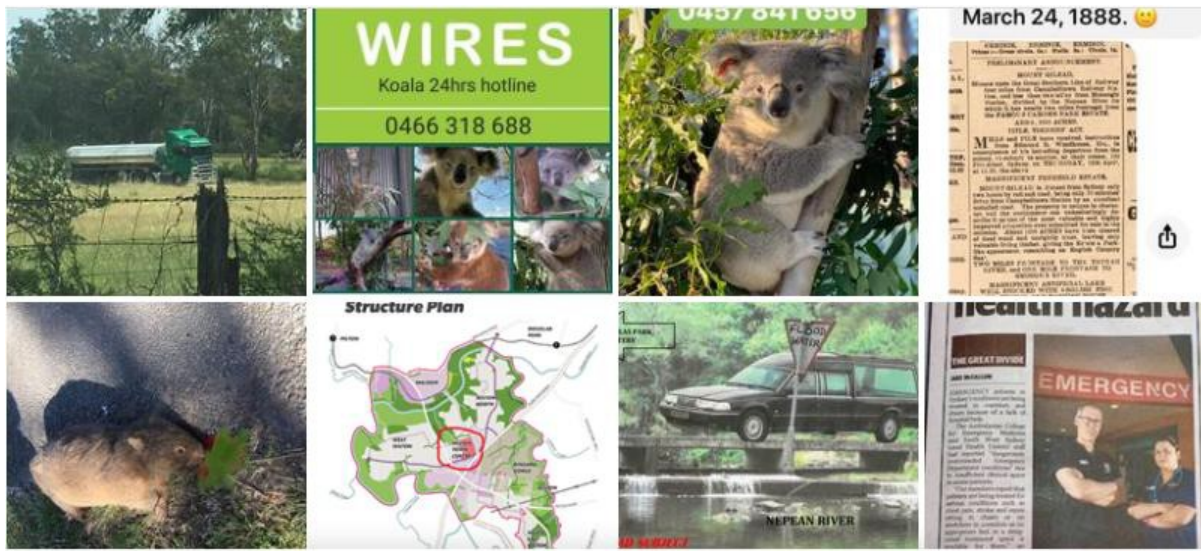
PLATYPUS HABITAT ?

The “Concrete Canal” is featured within the “conservation Plan “. But it is an example of “disrupted habitat “ for platypus who can not burrow into the edges of the waterway.





THIS CARTOON is about a Former Senior Liberal MP who was involved in “Deals” in ????????



Family evicted from home after 34 years takes developer to court to protect Sydney's koalas

[ABC Illawarra](#)

/

By [Timothy Fernandez](#)

Posted FriFriday 10 JulJuly 2020 at 8:28pm, updated SatSaturday 11 JulJuly 2020 at 3:26pm



Sue Gay and Kate Banister have to leave their home of 34 years to make way for urban development. *(ABC Illawarra: Tim Fernandez)*

Sue Gay and her daughter, Kate Banister, live on a sprawling property in Appin, about an hour's drive south-west of Sydney.

Key points:

- Sue Gay and her family are facing eviction from their rented home due to the rapid development of Sydney's urban fringe
- She is part of a court action against developer Lendlease over a housing development they claim will destroy koala habitat
- An upper house inquiry has found protecting koalas in Macarthur vital to saving the species from extinction

In recent years the rolling paddocks that characterise the region have become dotted with a growing number of housing developments.

It is part of the [NSW Government's plan to build 40,000 homes](#) in the Macarthur region over the next 20 years.

Ms Banister is a wildlife carer who said she had seen the impact urban expansion was having on the local koala population.

"Last koala season we had probably 20 come into our care that had been hit by cars, attacked by dogs or lost their habitat so close to the main road," she said.

"It was insane, we've never had that many before and that's just in Appin."



Kate Banister says she has seen a dramatic increase in koala injuries in the past year. *(ABC Illawarra: Tim Fernandez)*

Ms Banister cares for injured koalas on the rural property she shares with her mother in the middle of core koala habitat.

But after three decades the pair have been handed an eviction notice from the New South Wales Government, which plans to repurpose the land for urban development.

NSW Planning Minister Rob Stokes fast-tracks Appin housing development beside koala habitat

[ABC Illawarra](#)

/

By [Kelly Fuller](#)

Posted Wednesday 14 October 2020 at 7:57pm.



Environmental groups warn the decision to allow a \$70 million housing estate in Appin will lead to the destruction of critical koala habitats. *(ABC News)*

A decision by the NSW Government to fast-track a 280-lot housing development at Appin, adjacent to a critical koala habitat south-west of Sydney, has been met with dismay and shock by conservationists and a local councillor.

Key points:

- Planning Minister approves the rezoning of land for 280 new homes to help the economy
- Wollondilly Shire Council has repeatedly rejected the plan due to concerns such as the absence of a Koala Management Plan
- Environmental group says the plan will fast-track the destruction of koala habitat

The \$70 million project falls within the core habitat of the state's healthiest and only rebounding koala population.

NSW Planning Minister Rob Stokes has pledged the koala habitat will be protected.

The proposed development has a long history and was first submitted to Wollondilly Shire Council in 2007.

The plan has been repeatedly rejected by the council, most recently in February 2019, when developer Walker Corporation proposed a 220-lot development.

At the time, the council raised a range of objections including questions about water supply, increased traffic pressures and a failure to include a Koala Management Plan.

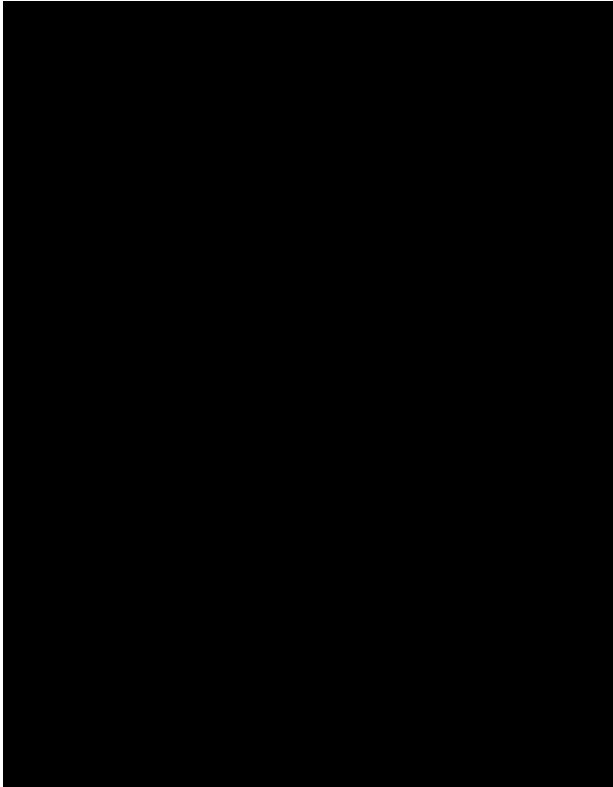
Mr Stokes said his approval included a plan to protect two-thirds of the site — equating to 39 hectares — for koala habitat.

"I am completely confident that on the basis of the merits and the independent advice associated with this rezoning application that 280 homes is the right amount for this site and also preserves the rural character of Appin," he said.

Mr Stokes said the increased number of lots was balanced by the conservation of bushland.

"I fail to see how conserving two-third of the site is overdevelopment," he said.

He said the draft Cumberland Plain Conservation Plan and the Greater Macarthur Interim Plan supported the Planning Department's conservation measures.



The Total Environment Centre says it believes the development of Appin will look like this, with the green area protected koala habitat and the red area cleared for 280 homes. *(Supplied: Saul Dean)*

Fears for koalas

Saul Dean, an urban sustainability campaigner with the Total Environment Centre, said he was dismayed by the decision.

"This is a fast-track to koala habitat and corridor destruction rather than housing in that area," he said.

Mr Dean said he believed the plan overrode the Cumberland Plain Conservation Plan.

"This puts that aside and we are back to piecemeal, cumulative destruction of Koala habitat and corridors," Mr Dean told the ABC.

'Council issues not resolved'

Wollondilly Shire councillor Matthew Deeth said he was surprised by Mr Stokes' announcement because "the issues of council" had not been addressed.

"I am not too sure how the challenges have been resolved," Councillor Deeth said.

"I will certainly be seeking more information to understand how they will be addressed.

"I am keen to see the detail on how they plan to resolve the traffic impacts, the water infrastructure requirements and particularly the impact on our koalas."

Mr Stokes said he expected work to start within six months and that would include subdivision assessments with technical studies and detailed biodiversity plans.

JANUARY 25 2018 - 3:30PM

Environment centre calls to save koala habitat in Appin

- **Ashleigh Tullis**

Local News

[Comments](#)



Koalas have been spotted across the shire. Picture: Geoff Francis

An environmental organisation fears a proposed housing development in Appin will “destroy” vital koala habitat.

Total Environment Centre executive director Jeff Angel is urging the Wollondilly Council to reject the rezoning application because it will “destroy precious core koala habitat”.

Walker Corporation has sought to rezone land at Macquariedale Road to allow the development of about 215 new houses. The application is being assessed by Wollondilly Council.

“Despite efforts by the Macquariedale Road proposal to appear to minimise impacts on local koalas, it will cause the destruction of all critically endangered Cumberland Plain Woodland trees present at the site,” Mr Angel said.

“Public submissions are open until February 28 and the community should be alerted to the proposal’s lack of concern for the healthy koala colony.

“Unfortunately Wollondilly Council has so far failed to acknowledge the presence of core koala habitat on the development site.”

Mr Angel said there was Shale Transition Forest to the east of the development site which was also earmarked to be cleared.

“This type of forest is known to support an extensive number of koala food trees,” he said.

“Also late last year, a breeding koala female with a baby was sighted in this very location and this sighting was formally confirmed by the NSW Office of Environment and Heritage.

“We can only hope that the latest koala sighting changes the council’s position and stops the proposal in its tracks.

“The presence of koala food trees combined with the presence of a breeding female, means that this is core koala habitat under State Environmental Planning Policy No. 44 Koala Habitat Protection and should be preserved, not destroyed.”

A Walker Corporation spokesman said the developer was aware that there was a koala colony to the east of the Geroge River and at times koalas transited through Appin.

“As a result, Walker has committed up to \$500,000 towards environmental initiatives, including koala crossings along Appin Road,” he said.

“Initiatives like the koala crossings will actually help protect the koala population in Appin.”

The spokesman said Walker Corporation was also conserving the main bushland corridor along Ousedale Creek, dedicating two thirds of the Appin site as environmental conservation land.

“Overall Walker will dedicate 54 hectares to conservation and will fund the maintenance of this land in perpetuity at a likely spend of up to \$2 million,” he said.

The spokesman said the developer commissioned ecologists Travers Environmental to undertake detailed koala surveys in 2015, including a survey of residents living immediately adjacent to the bushland.

THIS PROPOSED PENRITH AREA “urban zoning proposal” seem to LACK the “GREEN INFRASTRUCTURE “ solution in DETAIL ?

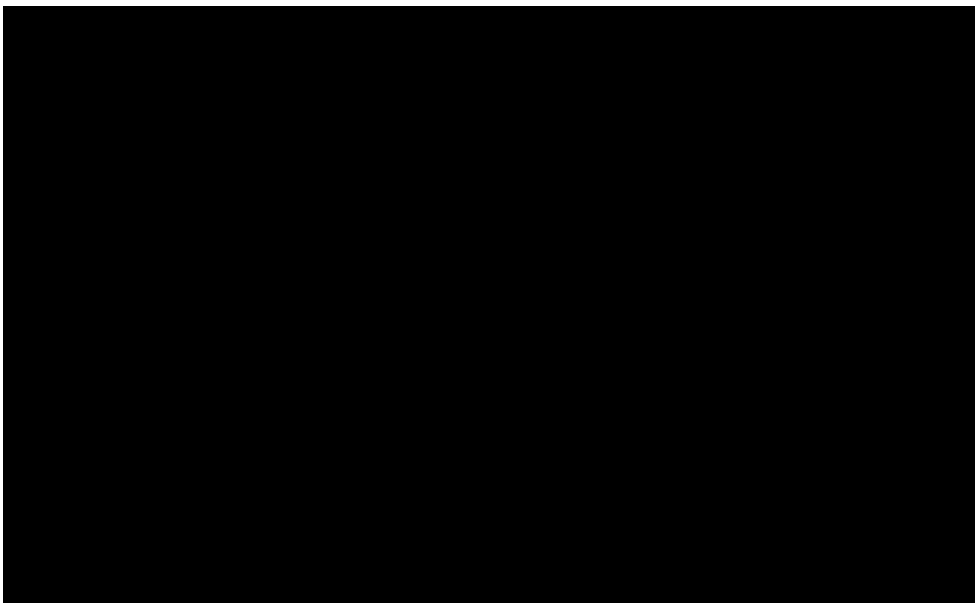
Glen-more housing: Plan for more than 2,500 new properties

By

[Alena Higgins](#)

-

June 3, 2020, 10:24



The site is bounded by Glenmore Park to the north, The Northern Road to the east, Chain-O-Ponds Road to the south and the Mulgoa Nature Reserve and rural-residential properties to the west.

Penrith Council has endorsed a planning proposal that could see rural land to the south of Glenmore Park re-zoned to make way for more than 2,500 new homes.

Known as 'Glenmore Park Stage 3', the 206-hectare rezoning area is slated to provide about 2,550 to 2,650 dwellings on varying lot sizes, a new neighbourhood centre, a primary school, retail shops, five playing fields and a network of public open space and environmental corridors.

The planning proposal sparked lengthy discussion when it was tabled last week, with many Councillors expressing concerns, despite acknowledging a significant improvement since it for first brought to Council by Mirvac in May 2018.

Minimum lot sizes of 180sqm, lack of transport infrastructure, housing densities, and noise abatement along The Northern Road were raised.

Councillor Kath Presdee declared she was still "not entirely sold" on the proposal, saying Council had been "burnt very badly" by a number of other developments in the past.

"I don't want this to be the starting point for the negotiations in five years' time when they are actually trying to sell and say 'oh no, for affordable housing we need lot sizes of 150sqm not 180sqm'," Cr Presdee said.

Councillors Robin Cook said Kevin Crameri raised environmental issues in relation to the proposal.

"If we're serious about the heat problem we have out here in Penrith, and there's going to be, I think it's 637 dwellings that are around that 180sqm, well where do you put the tree?" Cr Cook said.

Deputy Mayor Karen McKeown and Councillor Mark Davies worried about the distance to Penrith Train Station and further pressure on The Northern and Mulgoa roads, which are already under significant pressure and are currently being upgraded.

“I just think we are going to exacerbate a problem that we have already got,” Cr Davies said, adding he didn’t think it would work well in the long-term “at all”.

To deliver a mix of housing types and affordability, about 1,830 dwellings will have an average lot size of approximately 400sqm, with a 300sqm minimum permissible, while 637 will have an average lot size of about 210sqm, with an 180sqm minimum.

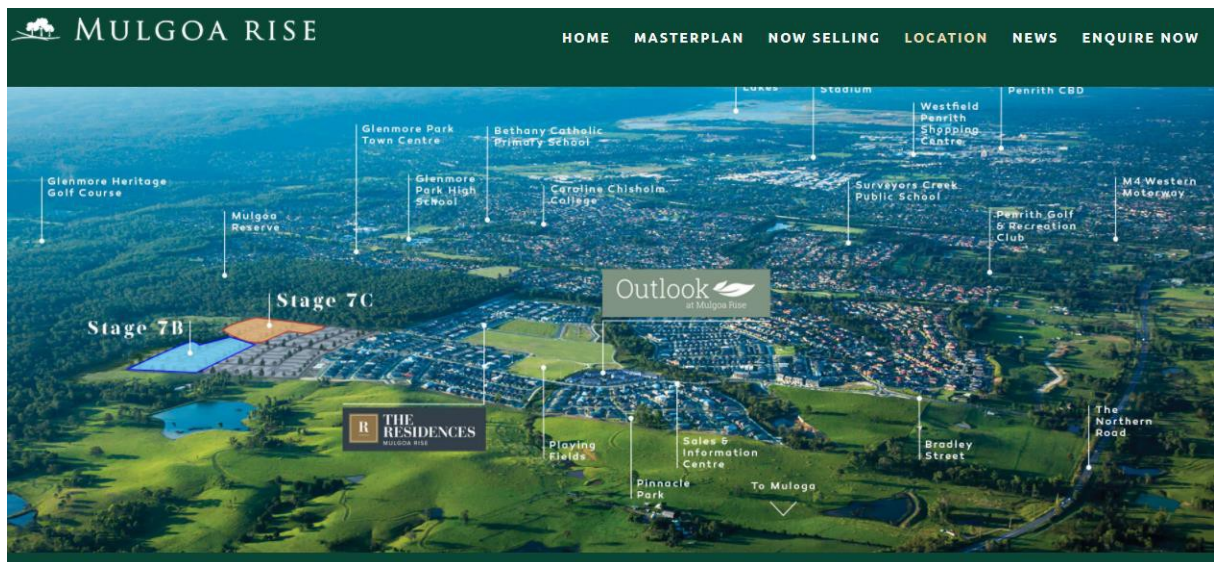
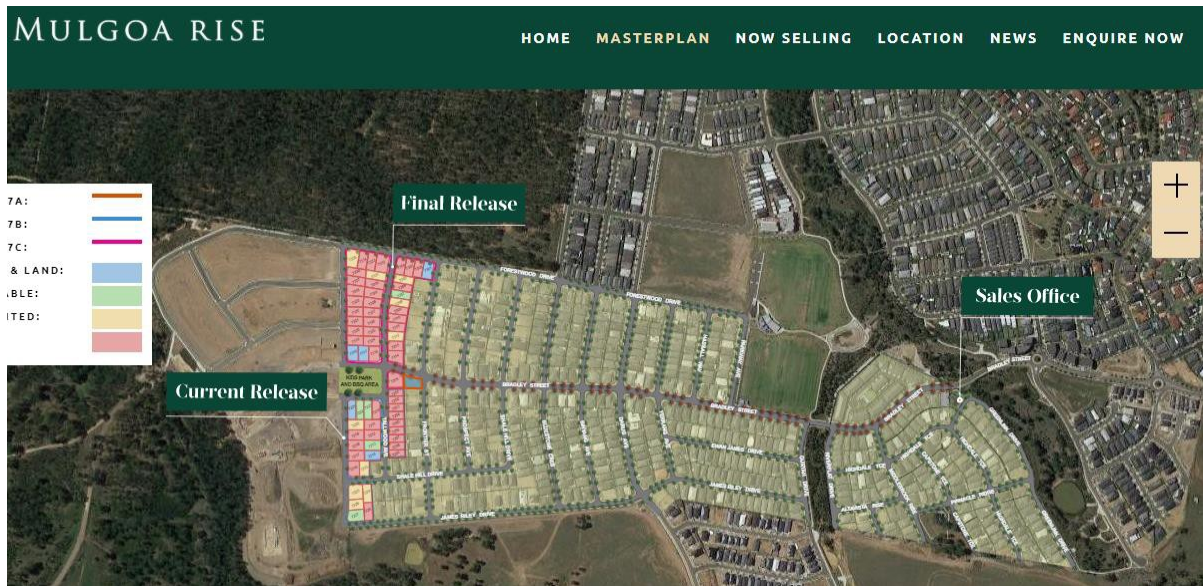
Approximately 20 per cent of the site would be conserved for green space and public recreation.

The motion was eventually passed, eight votes to five, and will now proceed to the gateway process.

Councillors Tricia Hitchen, John Thain, Brian Cartwright, Aaron Duke, Mayor Ross Fowler, Todd Carney, Bernard Bratusa and Greg Davies voted for the motion, while Councillors Robin Cook, Deputy Mayor Karen McKeown, Kevin Crameri, Kath Presdee and Mark Davies voted against.

Councillors Marcus Cornish and Jim Aitken were absent from the meeting and did not vote.

**THE MULGOA AREA has a new Housing Estate that has a
“NARROW Vegetated GREEN SPACE CORRIDOR**



if we consider the area taken up by the Western Sydney Airport and nearby former Dairy Farms then the “potential” for finding “Fertile Soils” suitable for agriculture land “Preservation” or ‘returning to pre- Colonial settlement of Western Sydney we find potential “GRASS LANDS” and “OPEN FOREST LANDS” and a COOLER CLIMATE.



This level of URBAN DEVELOPMENT includes in KEY PARTS a MULTI LEVEL FLOOR SPACE" increase. But is the "Bio-diversity Law Reform "Justified" ? by a "Reform ignores the "increase in FSR, but wants to use "off-set" the "LOSS of Bio-diversity Habitat" by "improving a lower grade" of less fertile land as the "off-set".

This seems like a "Poor Solution" for the "GREEN INFRASTRUCTURE FUNDING" solution??

The NSW NATIONALS have complained about "Bio-diversity Off-sets"

In the ANU area "Up-zoning" has a "VALUE-CAPTURE" % paid to the ANU Govt.

So if a "Reasonable %" was levied on the "GROWTH AREAS" then it may fund the "MISSING GREEN INFRASTRUCTURE" ?

It should be seen as "essential infrastructure" says the NSW Architect

Peter Poulet.

So COULD an increase in FSR be "VALUE CAPTURED" and then used to fund the overall "GREEN INFRASTRUCTURE" .including the Native Flora and Fauna Habitat areas and "SAFE ROAD CROSSING SOLUTIONS.

The NSW GOVT claims it as a "Priority" to solve the Loss of Bio-diversity Habitat in Urban Areas it seems that it is NOT HAPPENING within the Penrith area.

The example within Liverpool LGA

has just a 7% retention of bushland across the LGA.

BACKGROUND NOTES: Over the last decade large areas of native bushland have been cleared for what is termed Significant Infrastructure. Apart from the total clearing of bushland for housing estates, major sections have been cleared to accommodate large businesses and commercial projects such as:

- The Moorebank Container Intermodal, 125 ha. (the loss of hundreds of trees and koala habitat).
- Western Sydney Airport 3000 ha (the loss of thousands of trees including endangered Cumberland Plain Woodland)
- Widening of access roads to the east from Badgerys Creek for the loss of 100s of trees
- Inglis Horse Stables, Warwick Farm, 80 ha (the loss of ancient Forest Red Gums, valuable habitat trees)
- Warehousing Warwick Farm, Governor Macquarie Drive 80 ha (further loss of old habitat trees)

Existing bushland under protection of NPWS and the work of Council and Volunteers is acknowledged. Small areas of national parks, one at Bents Basin on the Nepean River, the other a slender corridor of connection to the Georges River NP at Voyager Point are important but wide-spread at either end of the huge Liverpool LGA. Council has contracted to restore more than 35 parks over the last few years and engage, under safe supervision, a dozen or so volunteer groups. These works are a success, but the large and extended size of the LGA means that most are isolated from each other.

By Council's own reckoning less than 7% of original bush remains in the LGA.

THEN “reviewing” the new amalgamated Canterbury-Bankstown Council LGA there is a “LACK of” Conservation lands created by E2 zonings.

Many local councils have designated E zones for high conservation value bushland, including urban councils such as Liverpool, Georges River and Sutherland. However, there are currently no E zones (other than the Georges River National Park) in the recently amalgamated Canterbury-Bankstown Council. Bankstown Bushland Society (BBS), in its submission for the 2020 Consolidated Canterbury-Bankstown Local Environment Plan, asked Council to consider E zoning for areas of recognised biodiversity value. Such areas include bushland and wetland at Deepwater Park, The Crest of Bankstown, Carysfield Park, Chullora Bush/Yana Badu Wetlands and Lansdowne Reserve. The current open space zoning for areas of biodiversity value permits development applications to be submitted for things such as roads, bicycle paths, earthworks, kiosks, restaurants, adventure playgrounds, garden centres and sports fields.

On Council's recommendation the Canterbury-Bankstown Local Planning Panel rejected E zoning in favour of a biodiversity clause (6.5) in the LEP which recommends that “appropriate measures” be taken to “avoid, minimise or mitigate the impacts of [any] development” proposed for designated areas of biodiversity value. BBS believes that this clause provides weaker protection for areas of ecological significance than E zoning as its purpose is primarily to lessen the severity of potentially damaging development applications rather than prevent them.

The high biodiversity values of remnant bushland in Canterbury-Bankstown is widely recognised. To protect bushland and wetland, up to 5% of the Canterbury-Bankstown LGA could be considered for E zoning. The Society calls upon the NCC Conference to support the designation of Environmental Protection zones in Canterbury-Bankstown.

PENRITH AREA – adapting this to the URBAN HEAT ISLAND effect in Greater Penrith area, the LACK OF TREE CANOPY ‘solutions’ has not been “pre-solved” within the MIRVAC “gateway approved proposal “.

THE EXAMPLE of THE REDLAND CITY – SOUTH EAST QUEENSLAND – WILDLIFE CORRIDOR PLAN.

The Wildlife Connections Plan 2018-2028 aims to identify and provide priority actions for the management, protection and enhancement of a network of core wildlife habitat and connecting corridors at a city wide scale. Five categories of wildlife habitat corridors have been defined: Established Corridors; Regional Riparian Corridors; Coastal Foreshore Corridors; Enhancement Corridors; and Stepping Stone Corridors.

The priority objectives and outcomes for each corridor include:

- *improve corridor habitat*
- *prevent wildlife deaths*
- *reduce impacts on corridors*
- *and protect corridor habitat.*

The identified mapped core habitat and corridors within this plan represent the highest value habitat and corridors, however areas not identified will still provide habitat and safe movement opportunities for many wildlife species

Ecology and Principles of Wildlife Habitat Networks and Corridors

The basic ecological principles of wildlife habitat networks and corridors involve linking and improving connectivity between patches of core habitat in a fragmented landscape. Wildlife habitat networks and corridors must provide functional connectivity for flora and fauna species to move through fragmented landscapes to larger core habitat patches that contain greater resources and are more suitable for survival (Hess & Fischer 2001). A lack of connectivity in a fragmented landscape results in the isolation of flora and fauna populations, which reduces the possibility of demographic or genetic rescue (Doerr & Davies 2010).

The ability of networks and corridors to increase connectivity and provide for dispersal depends primarily on the dispersal behaviour of the species involved, as well as the characteristics of the corridors, core habitat patches and the surrounding matrix (Heinz et al. 2007). Wildlife behaviours (including home range, diet and social structure) and habitat preferences of locally relevant species should be used to determine the design and management of corridors and networks (Lindenmayer & Nix, 1993). The requirements of species most threatened by habitat fragmentation and also species acting as vectors for ecological processes (e.g. seed dispersers, pollinators, predators) are critical for successful wildlife habitat networks and corridors (Scotts & Cotsell 2014).

Wildlife habitat networks and corridors have multiple benefits, they are important for:

- Providing residential habitat for some species;
 - Providing movement habitat for wide-ranging species, nomadic and migratory species, and dispersing individuals;
 - Maintaining or enhancing genetic interchange between otherwise isolated animal or plant populations; and
 - Facilitating the continuity of ecological processes through healthy and resilient animal and
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Table 2 - Summary of Wildlife Habitat Networks and Corridors attributes functions and guiding principles.

Core Habitat Patches

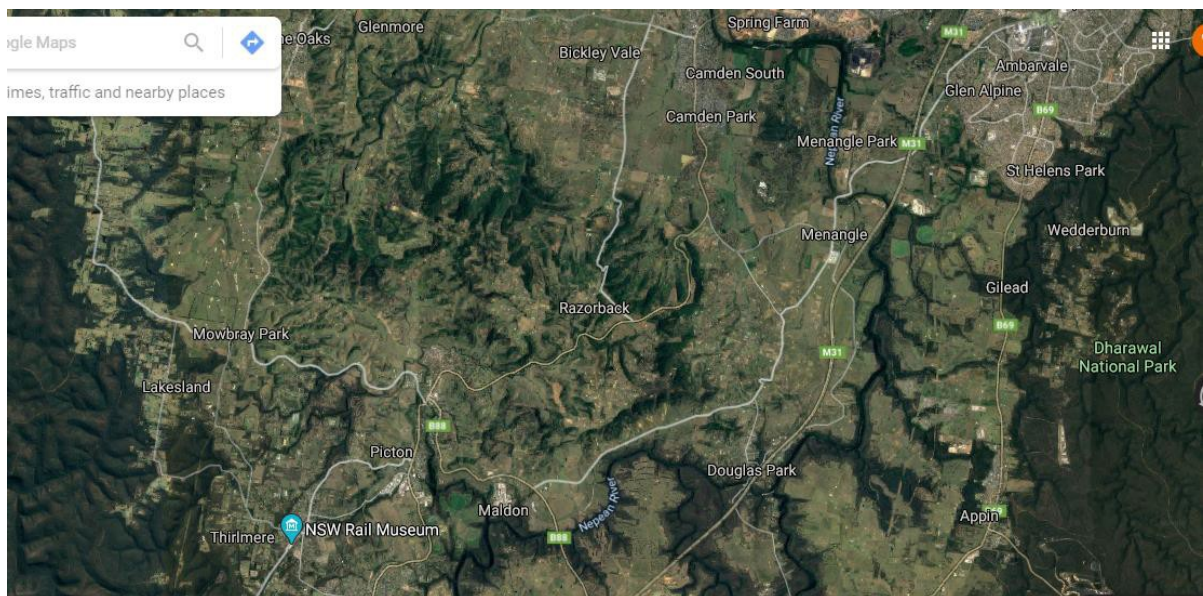
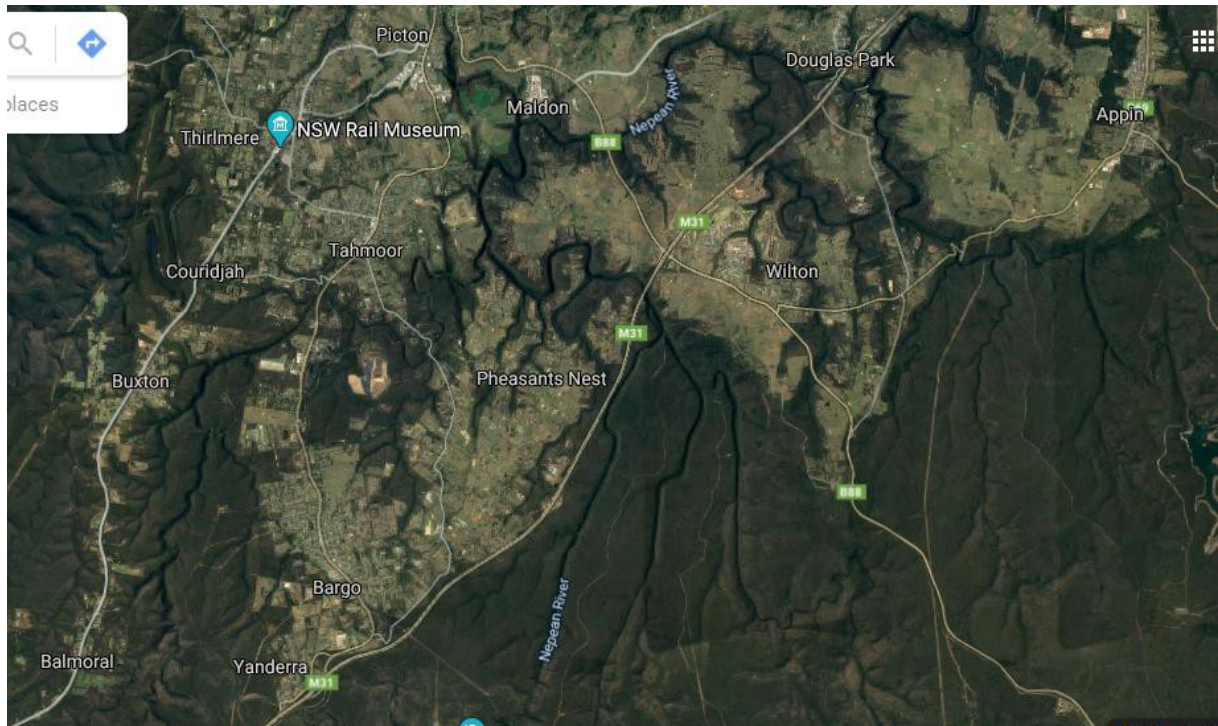
Large as Practical	To provide necessary resources and environmental conditions required for survivorship, reproduction and movement of a species core habitat patches should be as large as practical.
Circular Shape	The perimeter of core habitat patches should be minimised to reduce the impacts of edge effects (such as weed infestation, human-generated damage, microclimatic variables, and predation).
> 60m Buffer	A minimum 60m buffer of native vegetation should be provided for core habitat patches to reduce the risk of edge effects.
< 1100m Gaps	Core habitat patches should be no more than 1100m apart (even where structurally intact corridors are linking the core habitat patches).

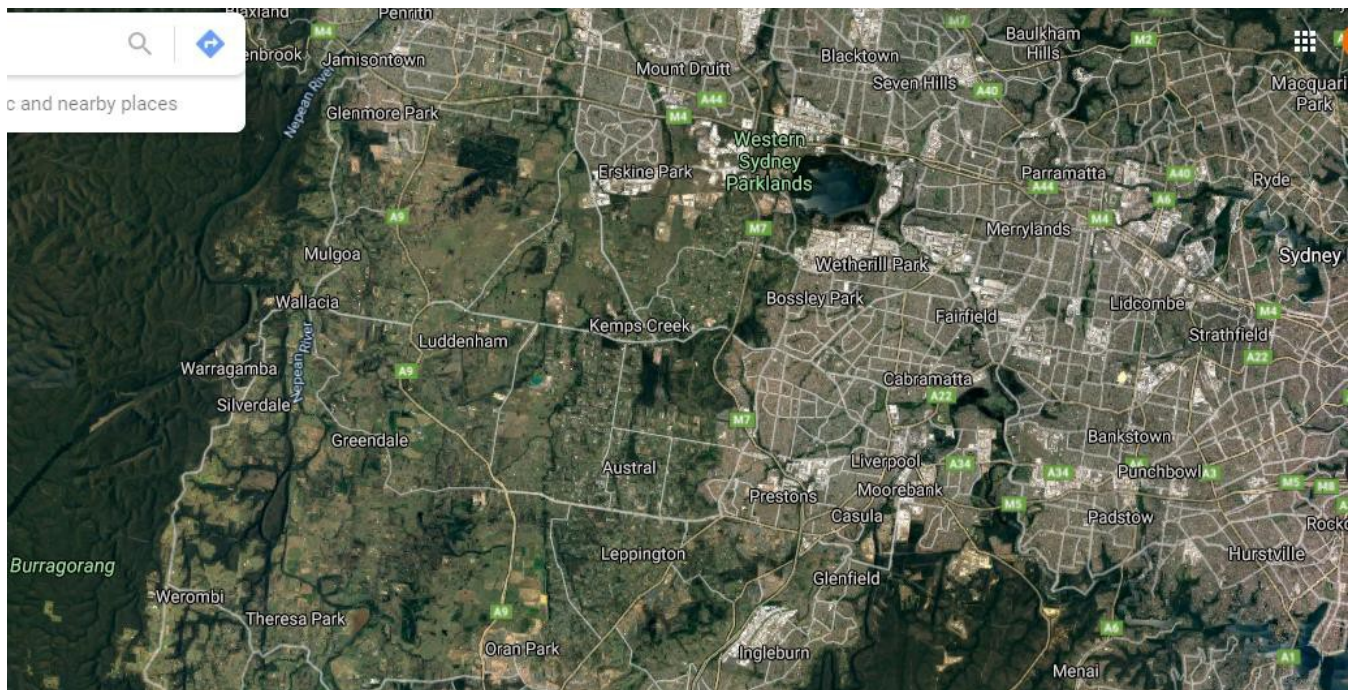
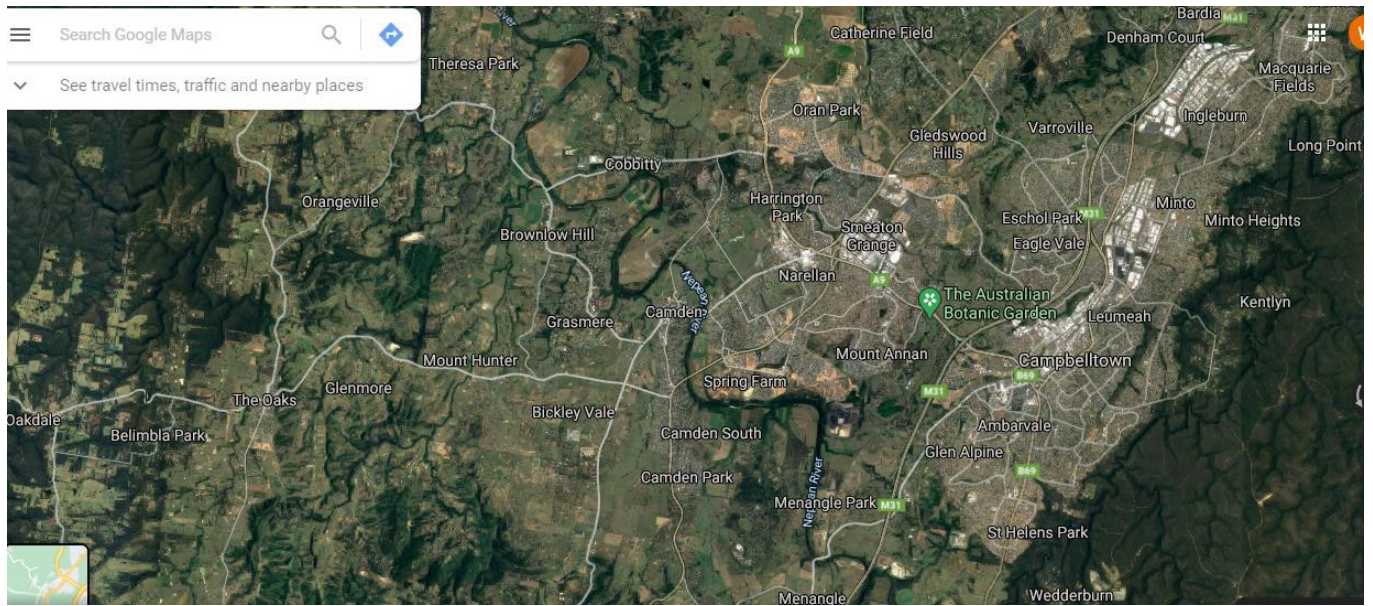
Wildlife Habitat Corridors

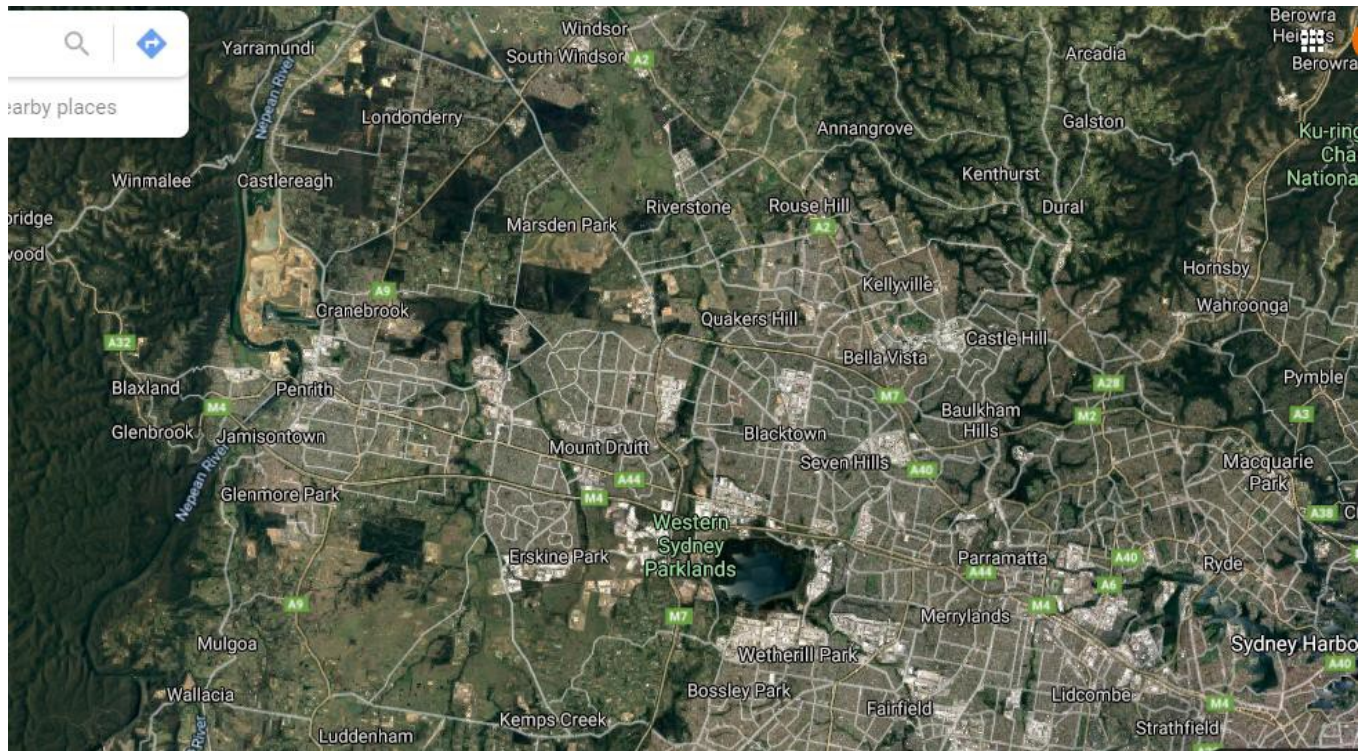
< 106m Gaps	To facilitate wildlife movement gaps (open areas) in habitat along wildlife habitat corridors should be no more than 106m.
> 100m Width	Wildlife habitat corridors should have a minimum width of 100m (preferably 250m to retain variety of bird species and complete suite of arboreal mammals).
> 50m Buffer	A minimum 50m buffer of native vegetation should be provided for wildlife habitat corridors to reduce the risk of edge effects.
Feathered Edge	To minimise exposure to edge effects and keep species movements within the corridor, wildlife habitat corridors should have an edge with a feathered shape.
Diverse Structure	A diversity of native flora (for example layers including grasses, small shrubs, and variety of trees) will benefit a greater number of species moving through wildlife habitat corridors.
Minimise Barriers	Minimising the number and impact of barriers (for example highways, railway lines and impermeable fences) will increase the success of wildlife habitat corridors.

Identification of critical stepping stone corridors (for example feathered

BELOW is a GOOGLE VIEW MAP OF WESTERN SYDNEY







So it is NOT CLEAR how the PROPOSED 100 m wide plus edge effects CORRIDORS fit into the overall Cumberland Conservation Plan ??

The Southern Sydney Koala population is claiming a 390 m wide plus Buffer of 40 m that provides a 430 m wide corridor.

The overall COST of Management at present may need to be reviewed as the BlackSummer Bushfires had a “estimated 3 billion wildlife deaths. So there may be a “Challenge” to provide habitat that is also DROUGHT FREE, when 99% of NSW is in Drought but Western Sydney Cumberland Plain can be “Drought Free”??



Koalas in the Cumberland subregion

Koalas once inhabited forests and woodlands on the fertile shale soils across the Cumberland subregion. Aboriginal history of the subregion speaks about koalas in Dreamtime stories and as a source of food (Lunney *et al*, 2015). Following the arrival of European settlers, who cleared land for agriculture and hunted for the fur trade, the koala population and distribution dramatically declined in the Cumberland subregion.

The Cumberland Plain has two known populations of koalas: in Southern Sydney, and in the Blue Mountains, extending from west of the Cumberland subregion to Kurrajong in the north and Bargo in the south. The [Cumberland Plain Assessment Report](#) (the Assessment Report) undertook koala habitat mapping across all nominated areas. This included mapping of important habitat as required by the Biodiversity Assessment Method, which built on the work of the department in mapping habitat around the Greater Macarthur Growth Area and Wilton Growth Area. Koalas were excluded from further consideration in the assessment in Greater Penrith to Eastern Creek Investigation Area and the Western Sydney Aerotropolis on the basis that no important habitat was mapped in these areas. Therefore, koalas in and around the Greater Macarthur Growth Area and the Wilton Growth Area are the focus of Sub-Plan B and are referred to collectively as the Southern Sydney koala population.

Koala movement corridors and habitat in South Western Sydney

Connectivity between important patches of koala habitat is critical to the continued presence of koalas in South Western Sydney. Koala movement corridors facilitate dispersal of the population, which supports breeding and protects against localised extinctions. Koalas need large, connected areas of important habitat for feeding and breeding.

Table 1 categorises primary and secondary corridors that, combined, establish important habitat for koala movement. Figure 3 identifies the current extent of important koala habitat in the Cumberland subregion. Most of this is found on the shale and shale-influenced soils in South Western Sydney.

Table 1: Definitions of koala movement corridors and habitat

Term	Definition
Primary corridors	Connected area of koala habitat that is contiguous (gaps between trees less than 100 metres) and greater than 380 hectares in width.
Secondary corridors	Movement corridors that are less than 50 metres wide or not connected at both ends to other koala habitat.
Important habitat	Within the Plan, important koala habitat consists of both primary and secondary corridors. It is the area that is critical to the long-term viability of koalas (primary corridors) as well as the areas (if enhanced) that would support the population (secondary corridors).

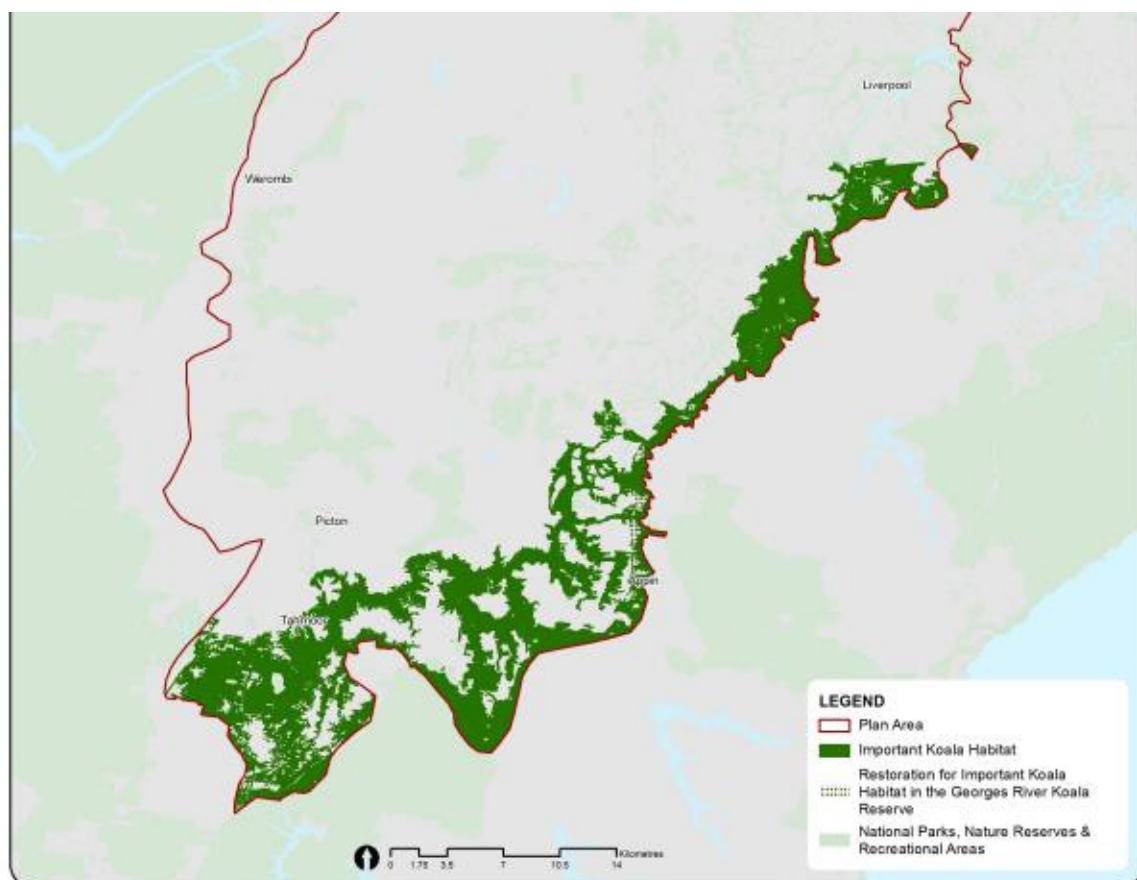


Figure 3: Important koala habitat in South Western Sydney

Vehicle strike

Vehicle strike refers to a vehicle colliding with a koala as it attempts to cross a road. Usually, the koala will be killed or injured. Without appropriate mitigation measures, the increasing traffic density associated with urban development is likely to increase the risk of vehicle strikes. Several major roads in or adjacent to koala habitat in South Western Sydney have crossings requiring management to prevent vehicle strike.

Koalas are highly mobile and typically move at night. As rural roads are not generally well lit, it can be difficult for road users to see them. Over the past decade, there has been a significant increase in koala fatalities from vehicle strikes. It is reasonable to assume that future urban land use changes, as part of the nominated areas and increasing traffic on major roads, will increase the threat to koalas from vehicle strikes.

Clearly increasing the population by 40,000 dwellings “implies” a significant “asset value” increase of the area, but a significant “THREAT” increase to Koala populations. So a “BETTER URBAN PLAN” can avoid the “CONFLICTS” with Over-Passes.

Proximity of urban development

Urban development in proximity to koala habitat poses several threats to koalas, particularly in the Wilton and Greater Macarthur growth areas. These threats can affect dispersing koalas, which travel through urban areas, in addition to locally resident koalas living nearby. Threats include:

- domestic dog attacks
- swimming pools
- light and noise
- habitat degradation due to increased edge effects from land clearing and greater risk of disturbance (for example, slashing, pollution and illegal dumping).

Without specific mitigation actions, threats to koalas near urban areas will increase as the population grows.

Duckfire

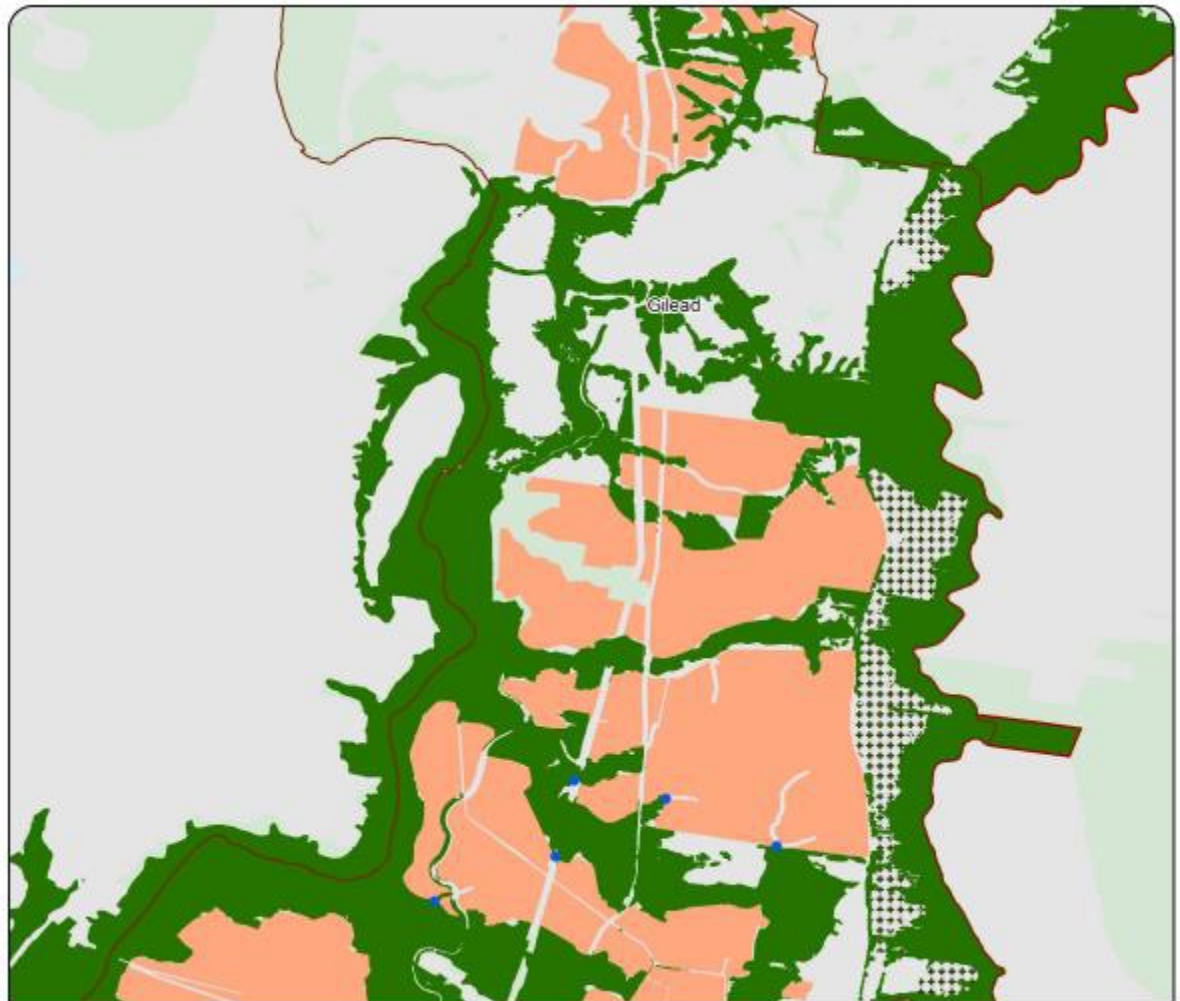
The APPIN land Release could be reviewed ? And the Campbelltown Koala Habitat intergration with housing development “reviewed” and that may provide a “clue to improve” SAFE MOVEMENT for wildlife thru urban areas.

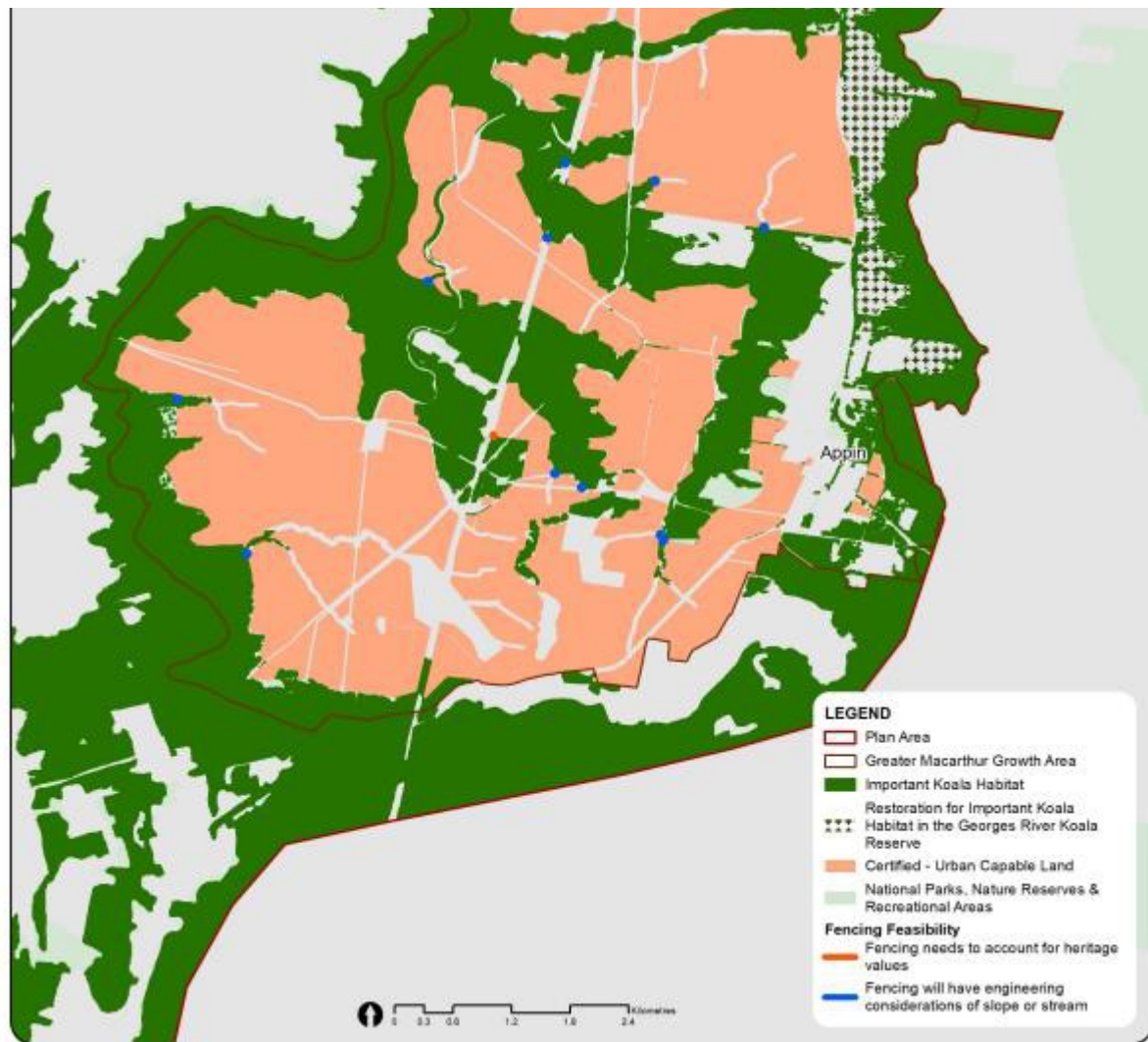
Climate change

Climate change contributes to drought, heatwaves and altered habitat quality and will affect the Southern Sydney koala population. On average, Western Sydney experiences 10–20 hot days a year (with maximum temperatures above 35° C). However, by 2039 Western Sydney is predicted to experience an additional 5–10 hot days a year and an additional 10–20 hot days by 2070 (OEH 2018). Management of heat stress and habitat will be required increasingly for the Southern Sydney koala population.

The increase in temperatures by 2070 by OEH NSW 2018 has an impact across NSW so having an “ADAPTION PLAN” to “COOL WESTERN SYDNEY” is

important. It could include “increasing the overall capacity within Western Sydney for Native Fauna Habitat” ? as a refuge from Drought affected Western NSW areas?





In the first three years of implementation of the Plan, koala-exclusion fencing will also be installed along Appin Road to mitigate vehicle strike for koalas (Commitment 7, Action 3). Vehicle strikes on Appin Road is a well-known threat to the koalas in South Western Sydney. This will be implemented in partnership with TfNSW (see Box 2).

Fencing will be installed in accordance with the recommendation from the [Chief Scientist Koala Report](#). It will be installed within the first 1–3 years of the Plan's implementation program.

Case study 2. Koala-exclusion fencing design

Transport for NSW has installed a 'floppy-top' fence along Wilton Road in South Western Sydney that is topped with an angled and unsecured section that bends under a koala's weight, preventing them from climbing over.

'Slippery-top' fencing has superseded the floppy-top design. This type of fence was recently installed over a 4.5-kilometre koala roadkill hotspot, along Picton Road in South Western Sydney. A 60-centimetre strip of steel or heavy plastic sheeting tops the fence on the side of the koala habitat. The sheeting prevents koalas getting a grip to climb over the top section.

Ecological restoration of koala habitat

Most of the Southern Sydney koala population prefers feed trees such as grey gum and blue-leaved stringybark that are found on nutrient-rich soils derived from Wianamatta shale. Due to historical clearing for agriculture, these vegetation types were largely removed from the landscape and only fragmented patches of koala habitat remain.

To enhance the connectivity between patches of koala habitat, and augment and strengthen existing primary and secondary koala corridors, native vegetation on Wianamatta shale soils should be restored. In addition to the 200 hectares of ecological restoration proposed in the Georges River Koala Reserve, around 1,920 hectares of cleared or degraded land has been identified across the strategic conservation area for potential restoration of koala habitat.

In line with the recommendation of the Chief Scientist Koala Report, the Plan's Restoration Implementation Strategy will clarify approaches to ensure the long-term sustainability of restoration considers genetic diversity in what is planted (Commitment 13).

Sub-Plan A provides more detailed information about the ecological restoration program and its implementation.

Box 3. NSW Koala Strategy Volunteer Wildlife Rehabilitation Sector Strategy

The *NSW Volunteer Wildlife Rehabilitation Sector Strategy* identified a shortage of technical resources and veterinarians trained to work with wildlife.

In partnership with Sydney University, the *NSW Volunteer Wildlife Rehabilitation Sector Strategy* allocated \$1.5 million over three years to Taronga Zoo for professional development to improve veterinarians' and veterinary nurses' skills in wildlife care. The funding will also pay to upgrade technical resources to handle, triage and treat wildlife.

The conservation program supports this strategy to strengthen the NSW wildlife rehabilitation sector.

COULD THIS BE “SHORT FALL BE FUNDED” thru the Growth in dwellings proposed in the area at over 40,000 dwellings?

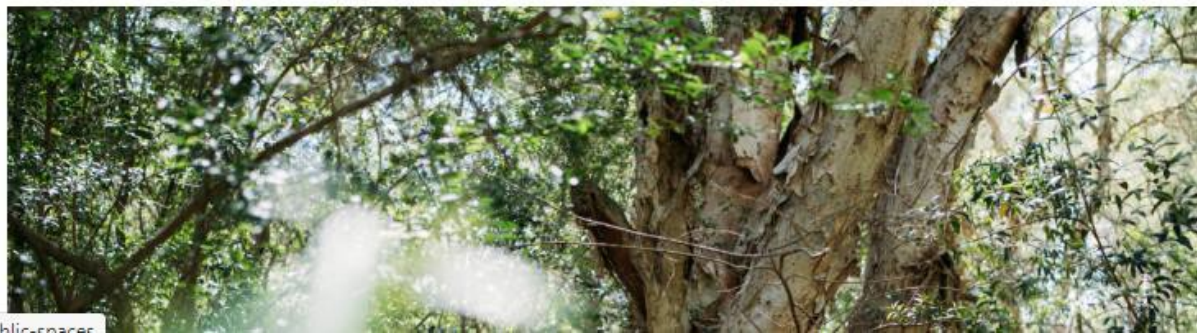
Premier's Priorities

The Premier's Priorities represent the NSW Government's commitment to significantly enhancing the quality of life of the people of NSW. The Plan plays an important role in helping to deliver two priorities:

Greening our city—increase the tree canopy and green cover across Greater Sydney by planting 1 million trees by 2022

Greener public spaces—increase the proportion of homes in urban areas within 10 minutes' walk of quality green, open and public space by 10% by 2023.

The Plan will contribute to these by establishing conservation lands such as public reserves and through ecological restoration, increasing canopy cover and providing quality green and open spaces for local communities.



Overview of the Plan

Strategic conservation planning in Western Sydney

Strategic conservation planning is an approach to assessing and conserving biodiversity upfront early in the planning process for large-scale development, to ensure our unique and diverse plants and animals are protected.

Strategic conservation planning enables decision-makers to identify and protect the most important areas for plants and animals while identifying areas suitable for development for housing and infrastructure for local communities.

The Plan has been prepared to meet requirements for strategic biodiversity certification under the NSW *Biodiversity Conservation Act 2016* and strategic assessment under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The Cumberland Plain Conservation Plan

The Plan Area includes parts of eight local government areas—Wollondilly, Camden, Campbelltown, Liverpool, Fairfield, Penrith, Blacktown and Hawkesbury.

The Plan's vision is to 'support Western Sydney's biodiversity and growth'. This means it will support the delivery of infrastructure, housing and jobs for Western Sydney in a planned and strategic way that protects and maintains important biodiversity.

The Plan will deliver commitments and a series of planned and managed actions designed to improve ecological resilience and function, and offset biodiversity impacts from housing and infrastructure development. Taking a landscape approach will deliver the greatest safeguards for Western Sydney's natural environment over the long term.

The Plan will deliver long-term conservation outcomes to the Western Parkland City by avoiding and/or protecting important biodiversity in areas for new development and in infrastructure corridors. Outside those areas, it will ensure outcomes through new or additions to public reserves such as national parks, investing in biodiversity stewardship sites on privately owned land, and ecological restoration of native vegetation.

This Plan represents one of the largest strategic conservation planning exercises ever undertaken in Australia and will provide an enduring conservation legacy for Western Sydney. It is also the first strategic biodiversity certification to be undertaken under the NSW *Biodiversity Conservation Act 2016*.

The Plan's conservation program

The Plan's conservation program comprises 28 commitments. They fall into five categories that address impacts to biodiversity from projected growth in Western Sydney, as identified through the Draft Cumberland Plain Assessment Report. The commitments will be implemented over the life of the Plan until 2056 and will be achieved through a series of planned and managed actions, according to priority and feasibility over time (see page 16).

The NSW Government has committed \$84 million in the first five years to plant 100,000 trees to restore important koala habitat in the Georges River Koala Reserve, install 120 kilometres of koala exclusion fencing in priority locations and establish biodiversity stewardship agreements.

Within the first five years of the Plan's implementation, the NSW Government will prioritise the establishment of three new public reserves to help deliver the Plan's commitment of more than 5,475 hectares for new conservation lands. These new reserves are critical to the protection of threatened plants and animals in Western Sydney.

The establishment of the Georges River Koala Reserve has been announced as part of the Plan, and two additional public reserves are under investigation for feasibility. These are the:

- Gulguer reserve investigation area
- Confluence reserve investigation area.

Other locations within the strategic conservation area, such as Bargo, have also been identified for further investigation as future reserves to provide greater landscape connectivity.

But the “Re-locating” of the Western Sydney Airport could FREE UP additional “Fertile Lands” for Conservation ??

The “Elevated GREENWAY” over the M5 West Corridor is not included within this \$ 84 million commitment above.



**Conserving flora,
fauna and associated
habitats**

These commitments will focus on establishing new conservation lands for in-perpetuity protection of biodiversity by securing new (or additions to) national parks, and council- or community-based biodiversity reserves, and establishing biodiversity stewardship sites on public or private land. Ecological restoration of native vegetation in conservation lands will play a critical role in expanding natural habitat and restoring connectivity in degraded areas.

These commitments will make up 90% of conservation program funding over the life of the Plan.

Personnally I am NOT CONVINCED that the “accounting” will provide adequate funds. The “Greener Places” schema definitions may be broader than the above “statement”. The cost of “implementation” could increase if the Family Unit BOTH WORK and so the amount of FEMALE VOLUNTEER NATIVE FAUNA care is reduced.?

Community Reference Group

The department also established the Cumberland Plain Conservation Plan Community Reference Group in 2018. This group, chaired by the Total Environment Centre, was made up of expert representatives from a range of environmental, Aboriginal, landscape profession and scientific groups in Western Sydney.

The Community Reference Group provided independent advice to the department on the strategic conservation planning process, and input and advice to support the development of the Plan.

The Reference Group were “Restricted” by NOT CONSIDERING the merit of a URBAN DEVELOPMENT “off-set” Solution that could “TRANSFER” offending URBAN PROJECTS, that could then allow “CREATION” of preferred “Restored Habitat areas”.

1. Establishing new conservation lands

The conservation program will secure at least 5,475 hectares of native vegetation. This will offset native vegetation that is cleared for urban development and transport infrastructure.

New conservation lands will protect Western Sydney's threatened plants and animals and native vegetation to enhance long-term resilience and ecological function. In-perpetuity protection of biodiversity will be achieved through establishing new or adding to existing public reserves such as national parks, and by establishing biodiversity stewardship sites.

The conservation program will prioritise sites in the strategic conservation area to establish new conservation lands over the life of the Plan (see Figure 4). The strategic conservation area is identified as having the greatest potential to deliver long-term conservation outcomes for biodiversity in the Plan Area. It includes large patches of native vegetation with good connectivity to other such patches, or areas with the potential to enhance connectivity that directly offset impacts on threatened plants and animals. The strategic conservation area will be monitored over the life of the Plan and regularly refined as constraints and opportunities change.

Due in part to the BLACK SUMMER BUSHFIRES the amount of available Ha could be increased 100 % or higher. Imagine a 5,000 Ha habitat supporting a 5,000 koala population extra ?

If the "standardised" FSR was able to have an increase in height then it facilitates Home Unit Developments on former "Factory Sites" that cover the whole site.

Establishing new reserves

Public reserves are recognised as the foundation of biodiversity protection as they protect the largest and most intact remnants of vegetation in perpetuity. In addition to their biodiversity value, they provide social and wellbeing benefits to local communities by increasing access to nature and green spaces and protecting heritage. Feedback from the Western Sydney community during early engagement found a strong preference for public reserves to be delivered under the Plan.

Within the first five years of the Plan's implementation, the NSW Government will prioritise the establishment of three new public reserves. This will help deliver the Plan's commitment to secure at least 5,475 hectares of native vegetation in new conservation lands. The establishment of the Georges River Koala Reserve has been announced as part of the Plan. Two additional public reserves are under investigation for feasibility, including the Gulguer reserve investigation area and the Confluence reserve investigation area (see case studies 1 and 2). Other locations within the strategic conservation area have also been identified for further investigation as future reserves to provide greater landscape connectivity such as Bargo.

These reserves may be national parks, nature reserves, state conservation areas or regional parks managed by the NSW National Parks and Wildlife Service, council reserves or community-based reserves. New reserves could also be managed jointly with Local Aboriginal Land Councils.

Providing support for climate change mitigation

Climate change is a serious threat to native species and natural ecosystems and is expected to be an ongoing challenge to effective conservation in Western Sydney. Increasing extreme heat as a result of a changing climate, combined with changes to bushfire and rainfall patterns, are likely to place additional pressure on Western Sydney's biodiversity.

The Plan will support existing and new conservation programs to help threatened species and ecological communities adapt to the impacts of climate change in Western Sydney by:

- filling knowledge gaps on climate change adaptation measures for biodiversity
- including priority locations in the strategic conservation area (if they are not already present) to support adaptation of biodiversity to climate impacts
- providing advice and support to councils to integrate the results of research, including identification of any important climate refugia, in their reserve management programs.

THIS PLAN has not yet “adapted “ to the impacts of the BLACKSUMMER Bushfires in its “pre-planning” for the future.

In a Post COVID 19 world the Western Sydney Airport could revert to the John Howard era or re-locate it to an existing remote Airport with existing Runway Capacity ? Thus potentially increasing the amount of “BIO DIVERSITY HABITAT” . In late 2020 COVID 19 era there is “reduced demand” for Airports so alternative to using WSA could be Canberra or Newcastle Airport.

The “alternative plan” for using Canberra may be within the O’Farrell Era and the Newcastle Airport can “qualify” the GHG “savings” possible using a low emission Bio-Jet Fuel. This requires “Research” to find the Bio-jet fuel source.

Implementation through planning controls

The department proposes to introduce a new SEPP for strategic conservation planning. The purpose of the proposed SEPP is to ensure that development in the nominated areas is consistent with the BC Act, the EPBC Act and the Plan's commitments and actions.

The proposed SEPP will also minimise impacts on areas of high biodiversity value and can provide the best opportunities to deliver biodiversity outcomes and support the ecological function of the Cumberland subregion.

To support the protection of this land, the Plan proposes to introduce:

- environmental conservation zoning to protect areas avoided for biodiversity purposes and riparian corridors
- a requirement that urban capable land in precinct plans covered by the biodiversity approvals are consistent with the areas of certified land, and protect avoided land identified in the Plan
- planning controls designed to minimise impacts on land identified as having strategic biodiversity value, including:
 - areas with high-biodiversity value
 - areas with important connectivity or ecological restoration potential
- planning clauses to support the identification, management and acquisition of sites that have been proposed for future public land conservation (e.g. public reserves and new or additional national parks) to offset development impacts and help meet the Plan's commitments

development controls that will actively protect and enhance biodiversity in nominated areas

So how does a SIGNIFICANT INFRASTRUCTURE PROJECT re-position itself ?? to improve the BIO-DIVERSITY OUTCOMES ??

The urban heat island effect in Western Sydney

Air temperatures in Western Sydney are expected to increase in the future as a result of climate change. This process will be exacerbated by the urban heat island effect, a phenomenon that occurs when large amounts of hard and dark-coloured surfaces such as roads and roofs cause localised warming. This will increase as urbanisation increases.

The NSW Government has implemented policies to address the urban heat island effect and increase resilience to climate change. [The Five Million Trees for Greater Sydney program](#) was introduced in 2018 with a target of completing the planting by 2030.

In 2019, the 'Greening our city' Premier's Priority was announced to ensure 1 million of those trees were planted by 2022. This work involves reviewing the planning system to identify ways to increase the retention of mature trees, green cover and green spaces, and incentivise new tree planting and green cover projects, particularly in dense residential areas.

The Plan will contribute to and support broader government efforts to mitigate the urban heat island effect by:

- introducing development controls specific to protecting biodiversity and other key environmental features in urban development areas of the nominated areas (commitments 2 and 5).
- strengthening the protection of areas of key biodiversity identified across the Plan Area, with a focus on securing new conservation lands where biodiversity would be protected in perpetuity (commitments 8–15).

The roles and responsibilities of the Plan's key agency and delivery partners are detailed in Table 4.

Table 4: Roles and responsibilities for implementation

Delivery partners	Role
The department (DPIE)	The department is the approval holder responsible for implementing the Plan.
National Parks and Wildlife Service	The NPWS will be the long-term manager of future reserves and national parks created under the <i>National Parks and Wildlife Act 1974</i> (NSW).
Office of Strategic Lands	OSL will be the key delivery partner for land acquisition for reserves established under the Plan
Biodiversity Conservation Trust (BCT)	The BCT will deliver the biodiversity stewardship agreement program under the Plan.
Councils	Councils will play a role in establishing council reserves and ensuring conservation is embedded in local planning controls. Including following section 9.1 Directions in considering any Planning Proposals submitted to them.
Community organisations	Community organisations could manage smaller parcels of conservation lands.
Private landholders	Private landholders to enter into biodiversity stewardship agreements to manage conservation on their land.

The Plan is to last until 2056 and many parts of the world are aiming for a NET ZERO EMISSION target date of 2050. So the “Roles may change” with greater “Community Organisations” involvement?

5. Building our knowledge through research

Despite substantial research into understanding the ecology of Western Sydney, many areas remain where further research will help us better manage threatened plants and animals. The Plan will play an important role in facilitating this work.

Research to support the conservation program

[The Plan](#) will include research that will underpin the adaptive management needed to achieve the environmental outcomes. Research programs will cover topics such as:

- the adaptive potential of threatened species and ecological communities to climate change
- improved techniques for restoring threatened ecological communities
- biodiversity threats
- land use impacts
- threatened species conservation
- behavioural science, and
- connections between biodiversity and Aboriginal culture and practices in Western Sydney.

Knowledge and data gathered through research will directly support the implementation of each of the Plan's key conservation commitments. They will also help improve ecological knowledge about the area's threatened species and ecosystems and our ability to monitor plant, animal and community responses to our efforts.

Establishing conservation lands as offsets

The department recognises the inherent uncertainty in delivering a conservation program of this scale over a relatively long timeframe. To address risk and uncertainty, the department has developed several methods to oversee, track and establish conservation lands as biodiversity offsets over the life of the Plan. They are:

- a series of steps and principles to guide the selection of conservation lands, while providing some flexibility in delivery
- a reconciliation accounting process to reconcile offsets acquired through the Plan (including conservation lands) with development impacts throughout the life of the Plan to 2056
- adaptive management steps to align the securing of biodiversity offsets with development.

Implementing these methods will ensure the Plan's conservation targets for TECs and threatened flora and fauna are met over the large timeframe and spatial scale of the conservation program. It will also provide certainty that impacts to threatened species, populations and communities will be offset at the time of impact.

These methods will be subject to the independent five-yearly review to ensure they remain effective in delivering the Plan's commitments and outcomes.

A description of the methods is provided below and summarised in Figure 17.

In addition, the department will develop a 'conservation lands implementation strategy' to guide the process for investigating, acquiring and establishing land identified through the Plan's strategic conservation planning. The strategy will include:

- priorities for establishing conservation lands to:
 - meet targets for protecting TECs and threatened species
 - meet connectivity and restoration priorities

COMMENT ::

There is a "ROLE" for underestimating the area needed for "complying Bio-diversity Habitat area" and "so profit" by the "error" ? The example of the "EXTRA HABITAT" for KOALA HABITAT could be extended to multiple Native Fauna Species suggests the PLAN has already "underestimated the area of Bio-diversity Land needed". There is "already examples in RURAL areas of "Land Clearing excessively" but supported by weak govt "controls"

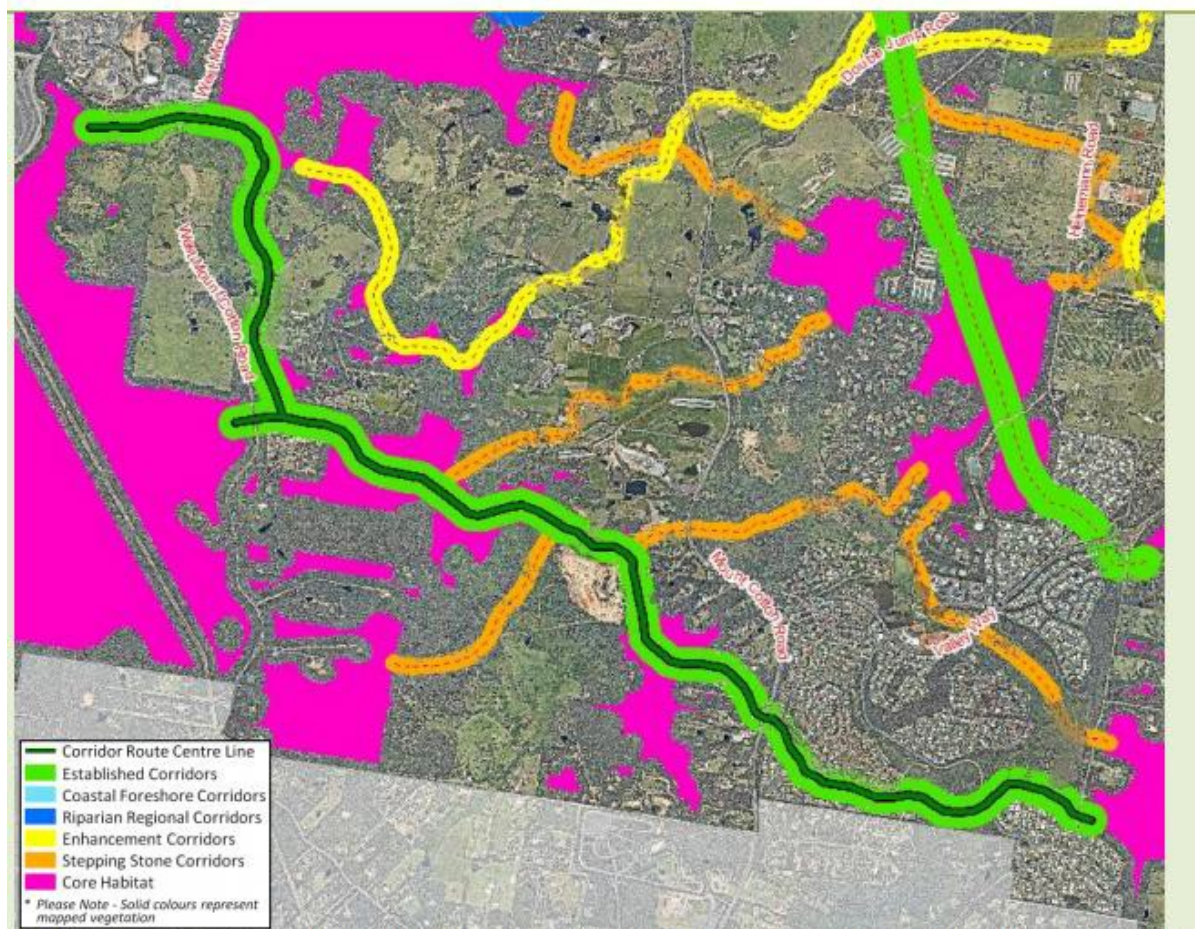


This is a detail of the WILDLIFE CORRIDOR NETWORK in REDLAND CITY , South East Queensland. – Now see how it is "adapted to Western Sydney".

The REDLAND CITY has KOALA and Greater Glider, and Squirrel Glider and Wallaby Habitat. All these Native Fauna and water based native Fauna could have "HABITAT" within Greater Western Sydney in a "REVIEWED" Cumberland Forest Conservation Plan ???

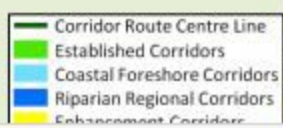
Sandy Creek Conservation Area to Days Road Conservation Area - Established Corridor



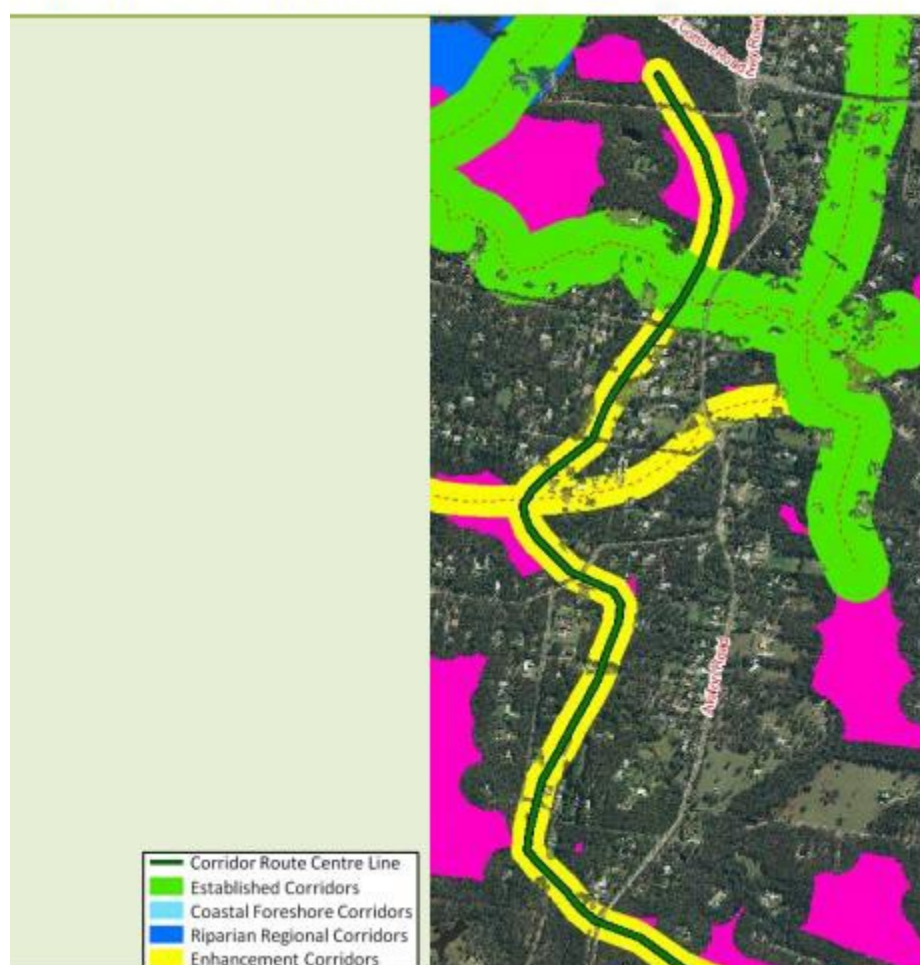


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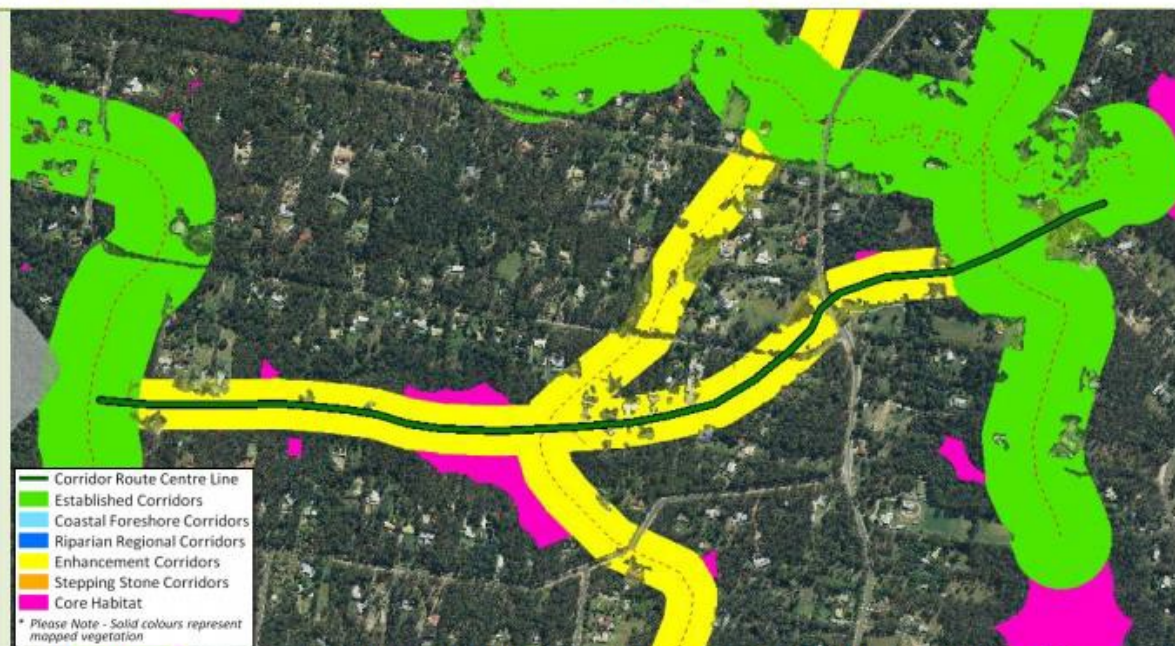
East to west corridor linking Bayview Conservation Park to Venman Bushland



Wallaby Creek to Avalon Road Corridor - Enhancement Corridor



Henderson Road to Pioneer Street Nature Belt - Enhancement Corridor



Description

East to west corridor linking Henderson Road to Pioneer Street Nature Belt.

Environmental Values

Linking open spotted gum dominated forest complex (12.11.5k/12.11.5a) of Henderson Road to open spotted gum dominated forest complex/riparian open-forest woodland of blue gum, iron bark, bloodwood (12.11.5k/12.3.11/12.11.5a).

Core Habitat Linkages

Links ≈5 core habitat patches. Maximum distance between patches is ≈1000m.

Land Uses / Tenure

Primarily zoned as Environmental Protection, with some Conservation zoned land at each end.



TOTAL
ENVIRONMENT
CENTRE

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PROTECTING SYDNEY'S MACARTHUR

THE SURVIVAL PLAN

MAY 2020

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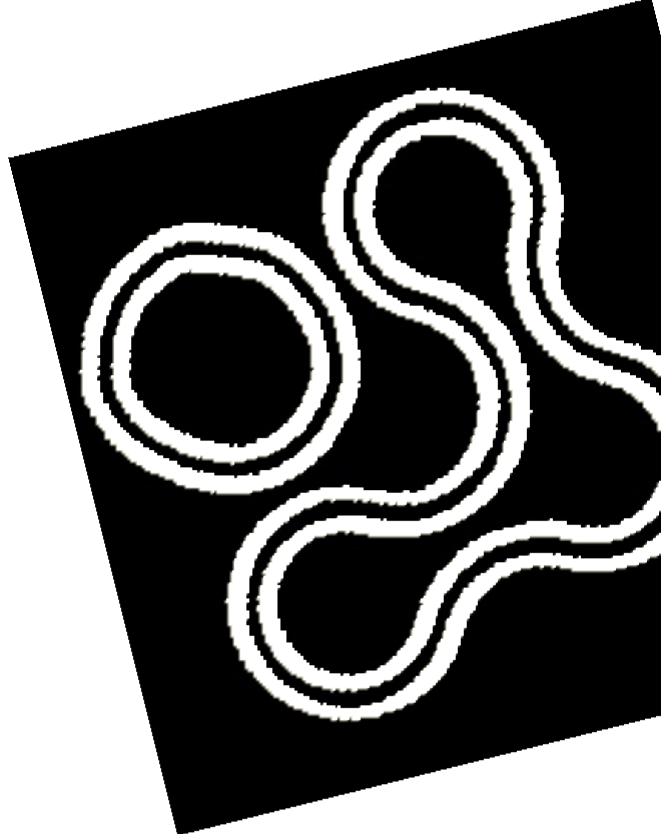
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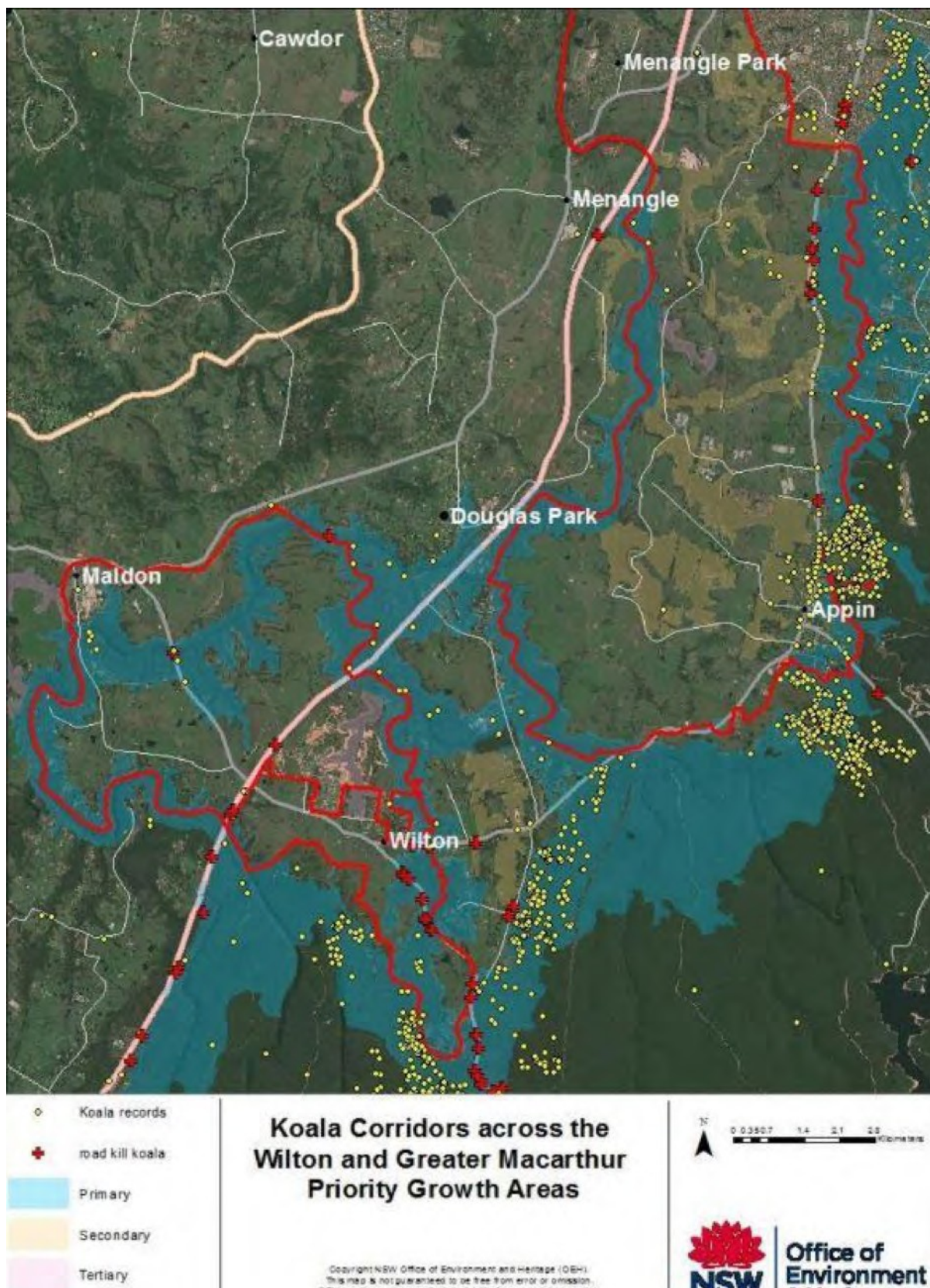
INTRODUCTION

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 stateⁱ. The Macarthur Region contains the only population listed in NSW as likely to be growing (McAlpine 2015)ⁱⁱ.

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 pink 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 radio-tracking study showing that female koalas lived long lives and produced multiple offspring.*”^{iv}

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.’*^v

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.

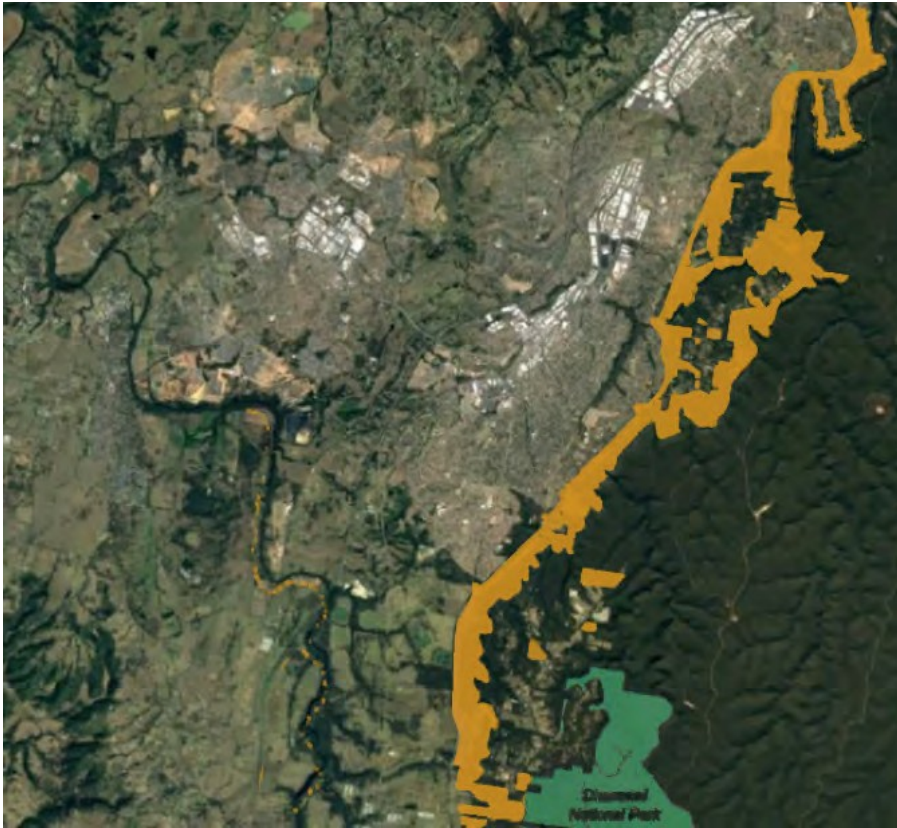
1. Declaration of the Georges River Koala National Park on government and private lands adjoining the River’s western side and along the Georges River.
2. The Minister for Planning and Public Spaces gazettes an improved State Environmental Planning Policy that requires upgraded protection of koalas in 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.
7. Regeneration of cleared lands as koala habitat, extending corridors along drainage lines.

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

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}



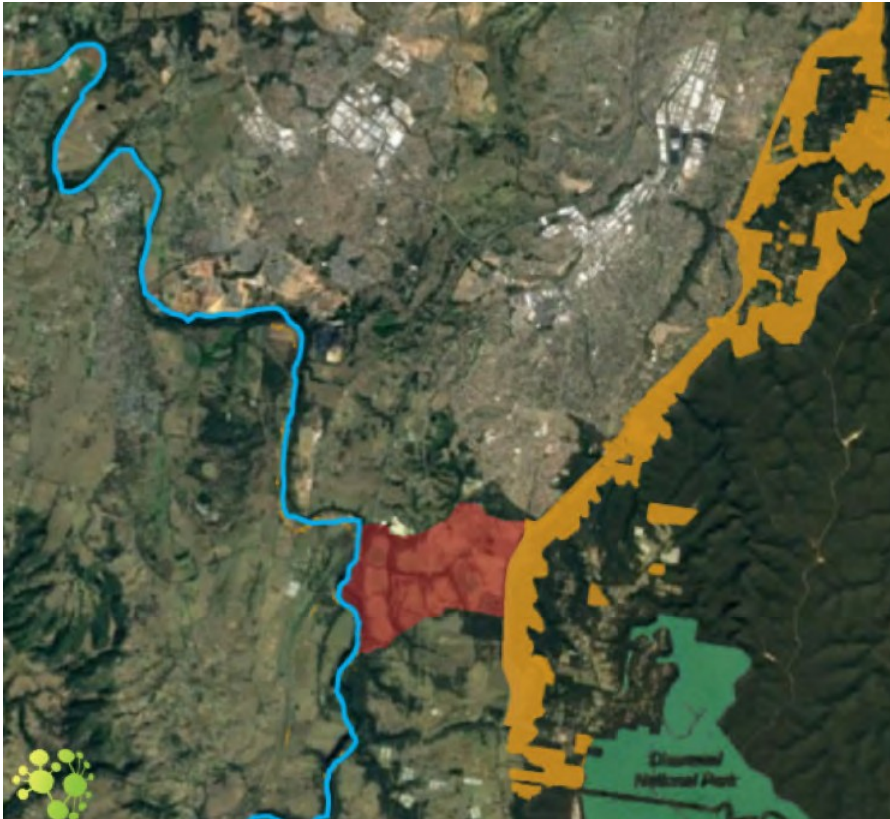
Map 2: Georges River Koala National Park: Part One

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.

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 (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.

3

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.*”^{viii}

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 the immediate north is suburbia.

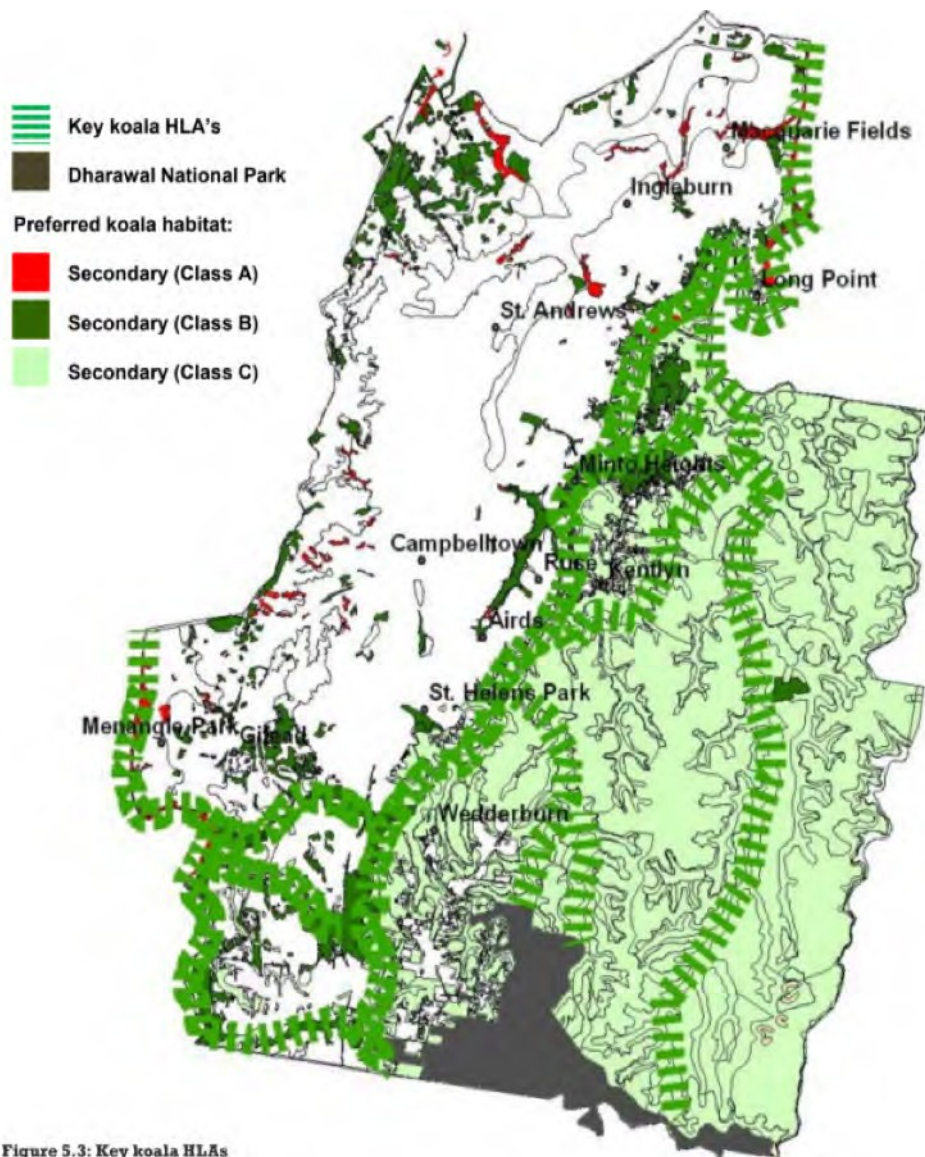


Figure 5.3: Key koala HLAs

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.”^x

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 Appin 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 they 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.”^{xii}

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.

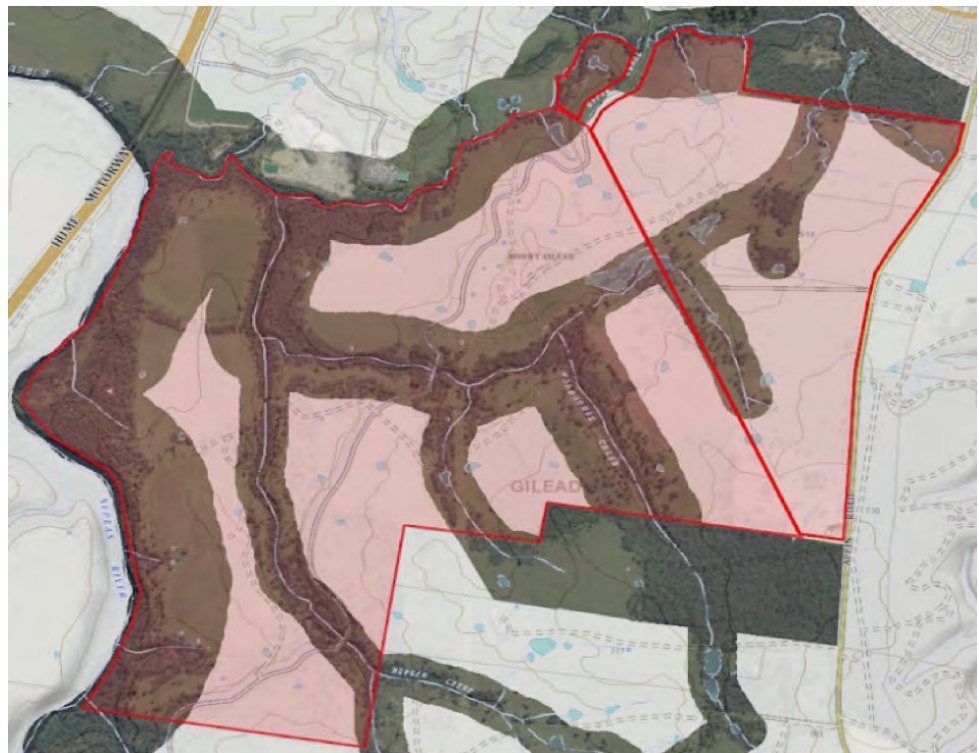
There should be a moratorium on development until the Plan is completed, funded and gazetted.

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

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 ($425\text{m}/2$).

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)

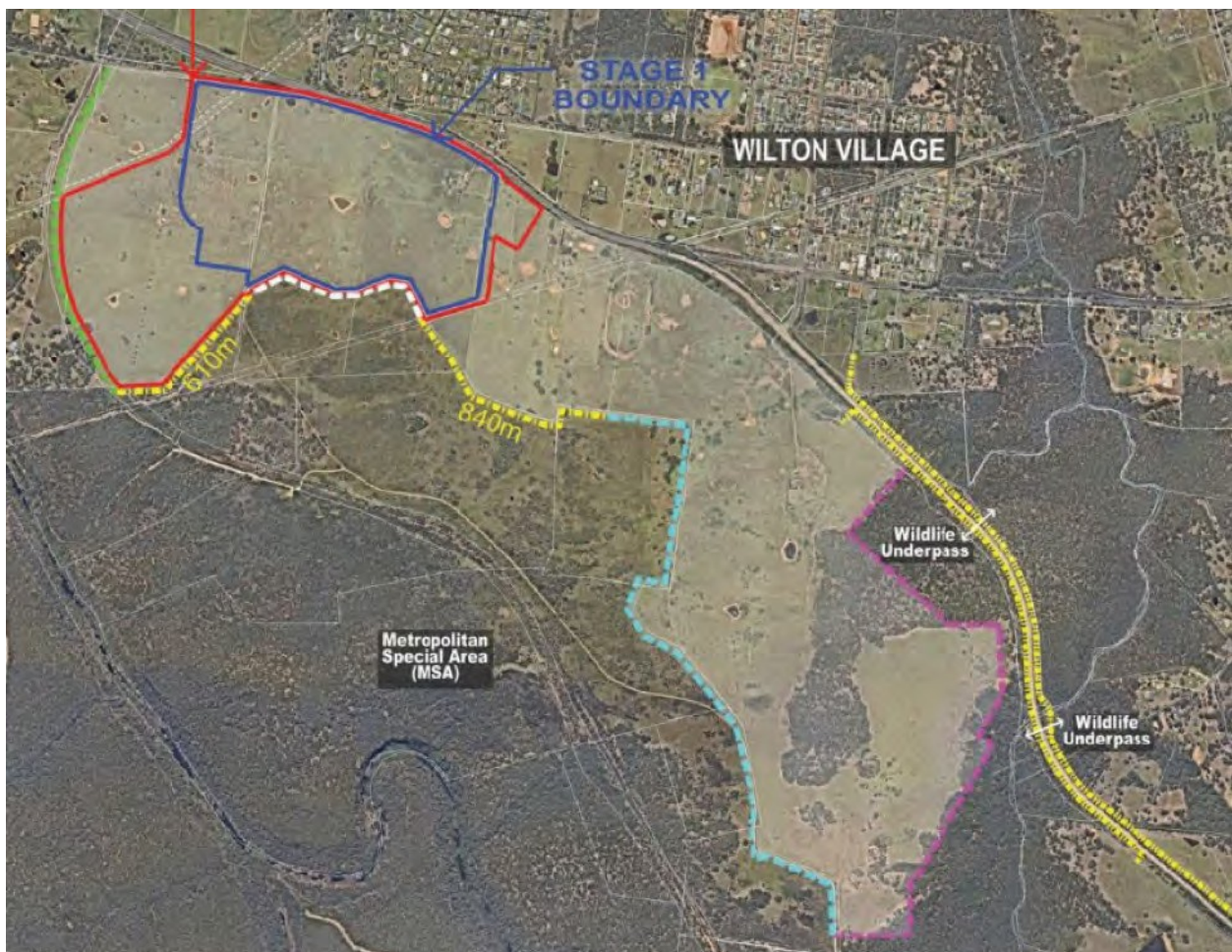
Lendlease has clearly interpreted the Biolink Report 2018 minimum width requirements of 200m as a maximum, rather than a minimum. This restriction, combined with the drastic reduction in connectivity, will severely diminish the ability of Koalas to connect with other local populations.

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

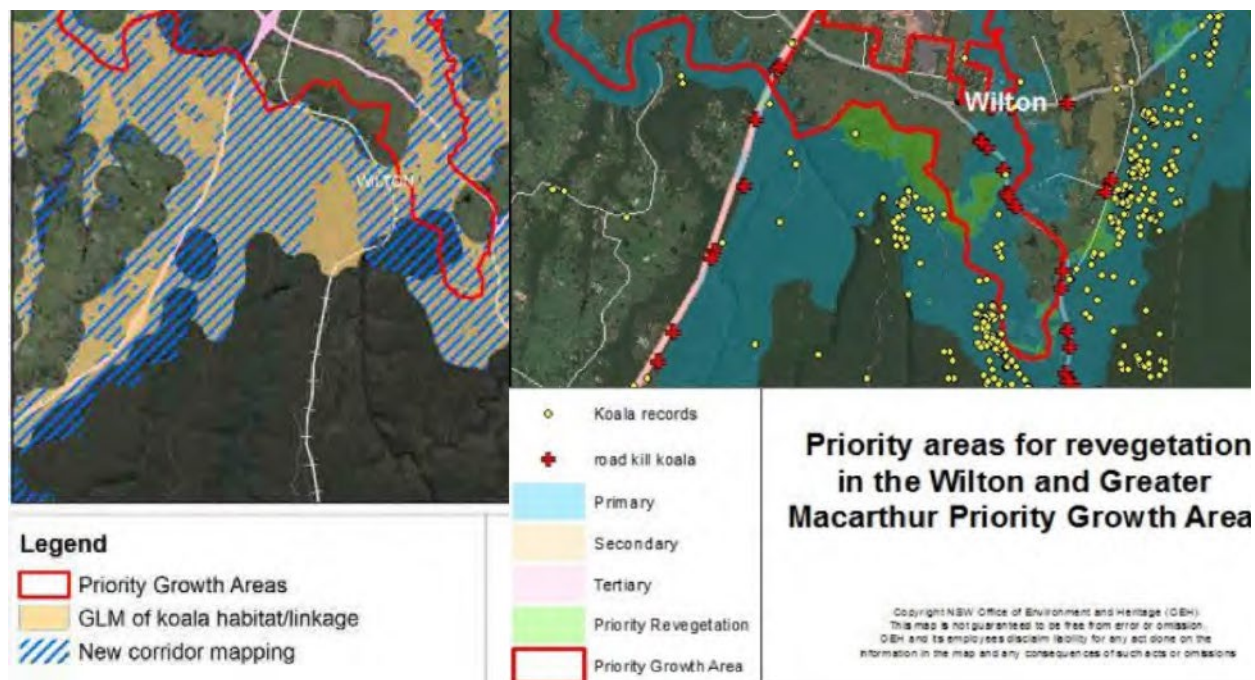
Walker's masterplan and the DPE's spot rezoning outlined in Schedule 1 makes a mockery out of all the Biodiversity Planning Principles outlined under chapter 5.3.2 of the proposed SE Wilton DCP. It states that the Precinct Schedule and neighbourhood plan must (relevant clauses applicable to Koalas below):

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

5

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.



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 CONTIGUOUS

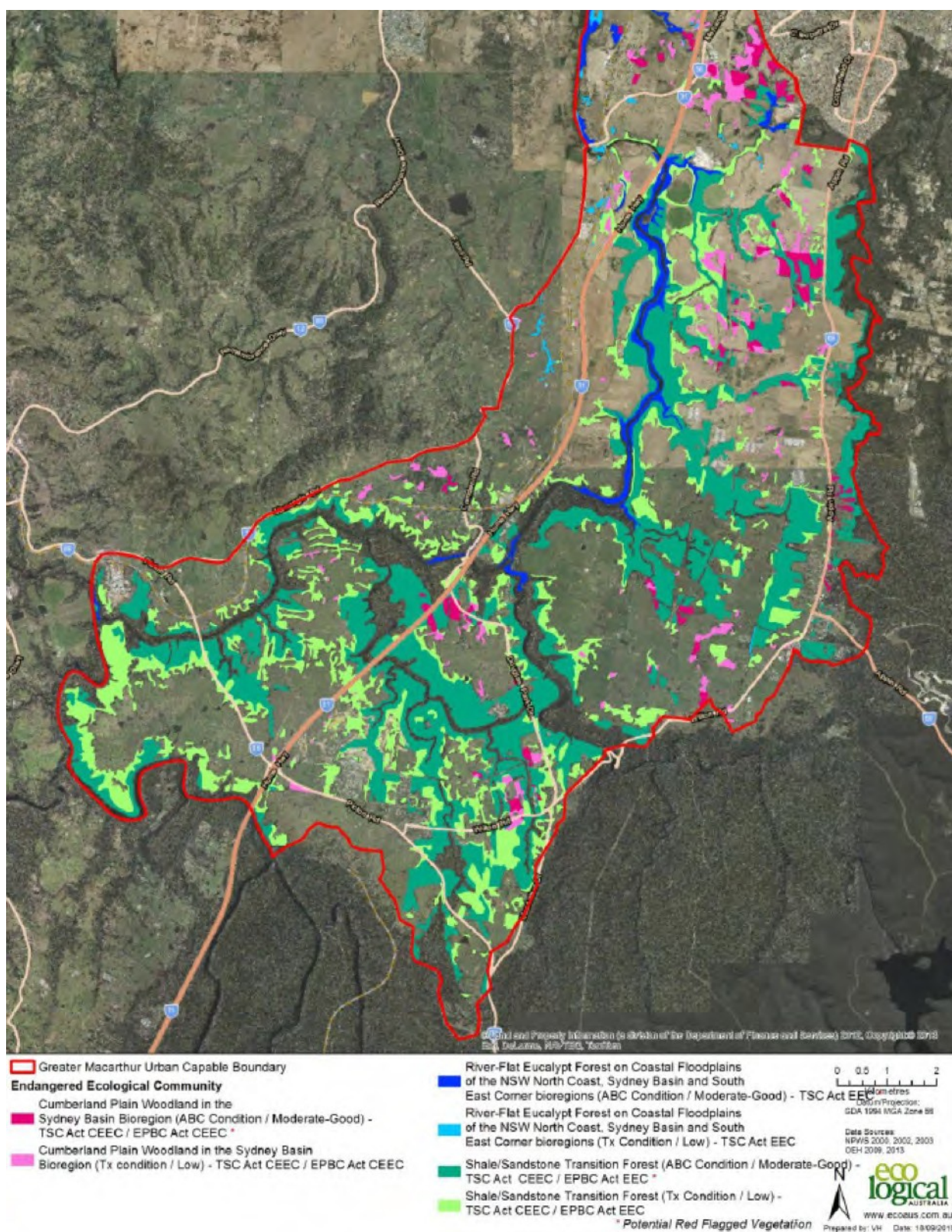
Biobanking and offsetting are intended to be a last choice with avoidance and minimisation of impacts preferred. However, too often it appears that development is the preferred pathway and offsetting and biobanking the poor compromise. This is particularly notable in the urban situation where it can 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.

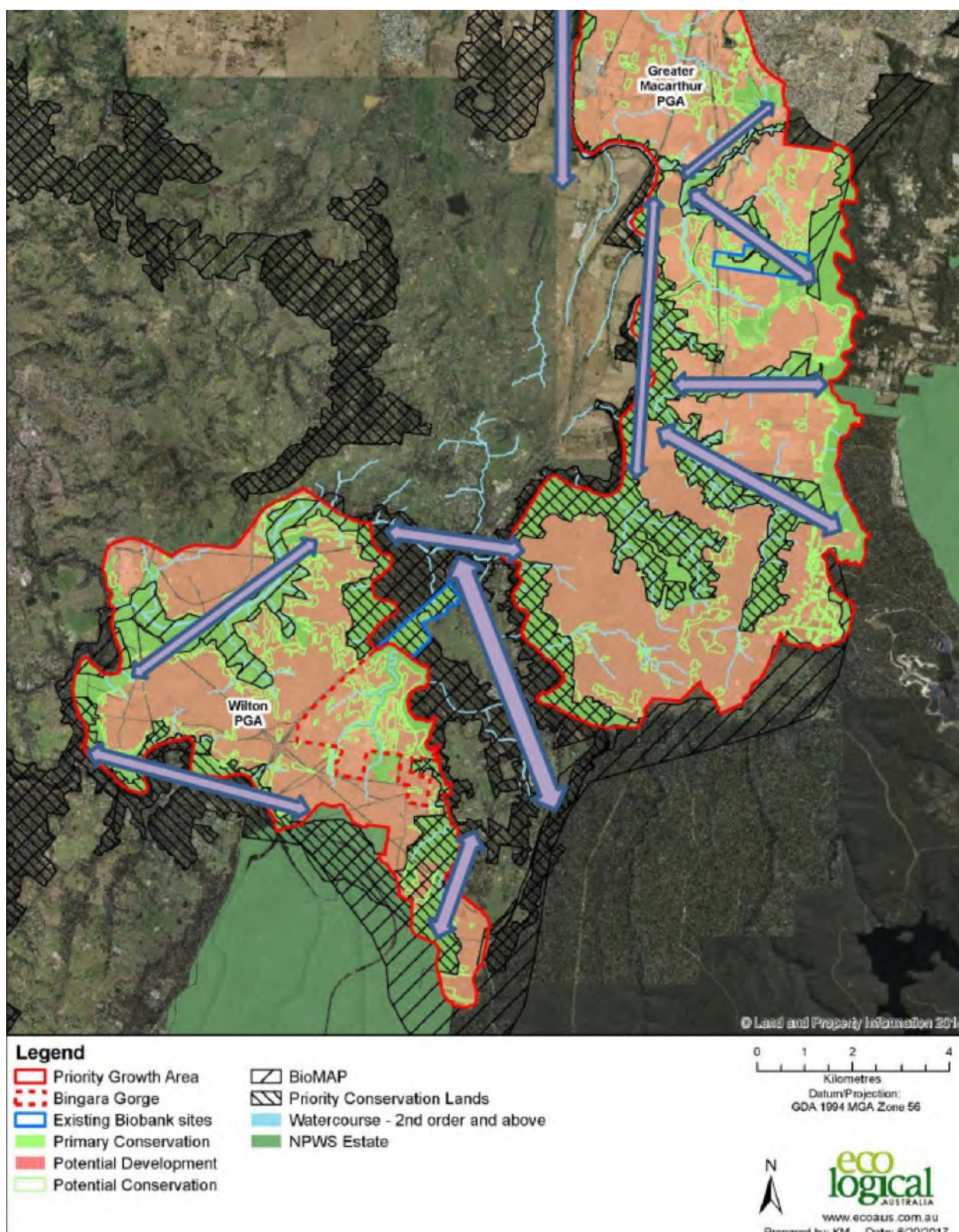


PROTECTION AND REGENERATION OF PRE-DETERMINED LARGE VEGETATION SETBACKS BASED ON RIPARIAN ZONES

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 formally designated under the Act and exclude asset 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

<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

A close-up photograph of a koala clinging to a tree trunk. The koala has brown fur with a lighter, fluffier patch around its neck and chest. It has a large, dark nose and is looking slightly to the left. The background is a dense forest with green leaves and tree branches.

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_sydney_koalas_campaign



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