

ATTACHMENT 1. Office of Environment and Heritage (OEH) comments on the Wilton Priority Growth Interim Land Use and Infrastructure Implementation Plan (LUIIP) and the Wilton South East Planning Proposal

PART 1 Interim Land Use and Infrastructure Implementation Plan (LUIIP)

Background

The *Interim Land Use and Infrastructure Implementation Plan* (LUIIP) provides a framework for delivery of a new town at Wilton. It is supported by a number of studies and provides an infrastructure masterplan to coordinate the delivery of essential infrastructure to support jobs and new homes.

1.1 Biodiversity Study and Biocertification

The LUIIP states that it has been informed by extensive investigations including a Biocertification technical investigation. However, the Biodiversity Study (EcoLogical 2017) is a desktop report only and does not form part of an assessment in accordance with the Biodiversity Certification Assessment Methodology (BCAM) or a Biodiversity Certification prepared under the new *Biodiversity Conservation Act 2016*.

It is stated the Biodiversity Study provides an overview of biodiversity values and is sufficient to inform broad land use planning directions. It covers the entire Wilton and Greater Macarthur Wilton Priority Growth Areas (PGAs) and recommends the use of biodiversity certification for precincts within the PGAs. The study involves no field surveys or field validation of the existing vegetation mapping (OEH 2013). A key limitation is that derived native grasslands (DNG) known to be present throughout the PGAs, and that form part of the critically endangered ecological community Cumberland Plain Woodland, are not mapped.

Although the study lists predicted threatened species, the list is not exhaustive and it is not clear whether BCAM has been used to derive predicted species despite references to “species credit species” and “ecosystem credit species”. Similarly references to ‘certified lands’ presupposes that a BCAM assessment has been undertaken which is not the case.

The Biodiversity Study is intended to provide a “Framework for Biodiversity Management” to be delivered through biodiversity certification but makes no recommendations for the scale that this should be undertaken (i.e. at PGA or sub precinct level). Importantly it does not provide an indication of whether biodiversity certification is likely to be achieved under the framework. While it recommends consideration of how conservation areas can be brought into public ownership, the study does not indicate how conservation areas will be managed for conservation purposes. It refers to these areas as forming a “recreational resource” which could be a conflict in terms of management objectives for biodiversity conservation.

Biodiversity certification is intended to inform strategic planning decisions. It is not intended to be applied retrospectively once rezoning decisions have been made. OEH has previously recommended the application of biodiversity certification to the Wilton PGA because:

- it delivers better environmental outcomes from urban development, at lower cost
- it ensures conservation issues are considered early in the planning process and new urban areas will ‘improve or maintain’ biodiversity values
- by switching off the need for assessments at the DA stage, it saves time and money for landowners and local government and potentially improves housing affordability.

Avoiding impacts on environmental values including biodiversity is a fundamental planning principle. It is also an important part of the assessment for biodiversity certification. The land proposed for biodiversity certification should be areas free of environmental constraints. If impacts on biodiversity cannot be completely avoided, the impacts must be mitigated and any residual impacts after that, offset.

The LUIIP states that biodiversity certification is being pursued for the Wilton PGA (p11 LUIIP). As the Planning Proposal for Wilton South East is currently on exhibition and proposes a rezoning of land with no biodiversity certification, and Bingara Gorge is already rezoned with no biodiversity certification in place, the LUIIP should be amended to clarify that biodiversity certification will be undertaken for the remaining precincts if that is the intention.

If planning proposals for the Wilton PGA are progressed without a biodiversity certification in place, the environmental assessments that underpin the proposals need to be complete, cohesive and comprehensive with adequate ground truthing and consideration of threatened flora and fauna. Under the *Guide to Preparing Planning Proposals* the proponent will be required to undertake an assessment of significance in accordance with section 5A of the EP&A Act and the Threatened Species Assessment Guidelines.

As previously advised if biodiversity certification is not achieved and there are biodiversity impacts (including red flag matters) that have not been adequately assessed, these impacts will have to be considered at development assessment stage. Consideration of any Matters of National Environmental Significance (MNES) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* will also be required.

1.2 LUIIP land uses and biodiversity values

The LUIIP proposes “urban capable”, “rural residential”, “environmental living”, “employment lands” and “employment land use for further investigation” land uses for the PGA (Figure 15). OEH has concerns that a map identifying future zones pre-empts the results of an adequate and comprehensive environmental assessment. OEH does not consider the Biodiversity Study is adequate to inform a strategic land use document such as the LUIIP.

Although Figure 9 in the LUIIP Background Report identifies biodiversity values, this does not appear to have informed the land use plan (Figure 1 in the LUIIP) as only “primary conservation” areas are identified to be retained. It is not clear why vegetation in Bingara Gorge is included in Figure 9 as this has already been rezoned. The “primary conservation” areas mapped in Figure 9 of the LUIIP Background Report shows other vegetation that is to be assessed at precinct planning stage despite it being critically endangered vegetation.

Primary conservation areas appear to be based on the Biodiversity Study which generally used the “Tx” code vegetation to map its “potential conservation” areas. There are a number of reasons why Tx mapping should not be used in this way for conservation assessment. OEH has previously commented on a draft Biodiversity Assessment Report (BAR) by Ecological dated September 2015 and addressed the issue of Tx vegetation and condition scores. It was advised that many areas of Tx vegetation may be assessed as being moderate to good condition and potentially red-flagged.

The Tx layer is dated (1999, from 1997-8 imagery) and the Tx code was assigned to areas that were not captured in other parts of the spatial mapping ruleset but which were often scattered trees or clusters of trees forming part of the landscape matrix. It typically mapped areas under 0.5 ha in size that, in many cases, had a groundcover with a high native component. This was not intended to identify land that could be excluded from assessment or used as a condition substitute. Many Tx sites that have been ground-truthed have been found to be in moderate to good condition, and some are among the best condition patches visited by OEH.

Table 4 of the Biodiversity Study lists 27 threatened flora species and 47 threatened fauna species which are predicted to occur in the study area. Significant populations of these species may occur within the study area but outside the proposed conservation areas. Where conservation areas are identified prior to threatened species surveys being undertaken, there is a risk that significant threatened flora and fauna populations will not be protected in the planning process.

OEH would prefer that the Biodiversity Study was more comprehensive and adopted a precautionary approach to include all potential ecological constraints based on adequate survey effort and

consideration of threatened species across the PGA. The limitations of using vegetation communities as a surrogate for biodiversity values should be clearly acknowledged.

If, however the Biodiversity Study is not augmented with field investigations and specific consideration of threatened flora and fauna species, at the very least the land use map should identify broader land capabilities rather than land uses or include the biodiversity values as an underlay to indicate that biodiversity values are present. Also, there should be qualifications in the LUIMP around the adequacy of the environmental assessment including specific wording on requirements for detailed environmental assessment at precinct planning stage.

1.3 Connectivity

Figure 6 of the Biodiversity Study describes connectivity through the PGAs and between them. It suggests that all east west corridors should have a minimum width of 200 metres to facilitate fauna movement but it does not indicate what fauna this is intended for.

Reference is made to protecting the Priority Conservation Lands with the exception of the southern extent of the Wilton PGA because there is no vegetation there. The study states "*Connectivity is therefore maintained although it is acknowledged that fauna movement outside of the corridors is less likely to occur in an urbanised environment compared to the existing rural environment.*"

This consideration of connectivity is therefore sketchy and lacks specific considerations for key fauna. It also relies on retention of lands outside the PGA, for example the corridor connection in the south-east corner of Wilton. Although the broader consideration of connectivity is supported there needs to be more detailed planning undertaken to consider how these connections can be conserved and enhanced. It is noted too that the Appin West Biobank site agreement has been signed since the Biodiversity Study was prepared. This site is situated between the Wilton and Greater Macarthur PGAs and if added to Figure 6, it may be appropriate to add a connectivity arrow between the PGAs that includes this Biobank site.

The Wilton PGA adjoins the Upper Nepean State Conservation Area (UNSCA) which is also part of the Metropolitan Special Area co-managed by the National Parks and Wildlife Service (NPWS) and WaterNSW. The UNSCA draft Plan of Management states that one of most important species in the area is the koala (*Phascolarctos cinereus*). As discussed in the section on koalas and Wilton South East precinct below, connectivity and corridor planning should consider the specific needs of target species along with adequate corridor widths, consideration of road crossings and security of conservation measures. The LUIMP Background Report suggests additional investigations will be required at the precinct planning stage to address the impact of urban design on koala movement and habitat (p19). The LUIMP also suggests that fragmented vegetation areas could be enhanced to improve habitat connectivity.

These issues have not been adequately considered in the Wilton South East Precinct PP. The LUIMP recommends that these matters be addressed at precinct planning stage but this will not be effective in addressing the needs of certain species (such as koalas) that require broader landscape connectivity.

For this reason, OEH has provided a map of primary koala habitat and corridors to assist with this and future strategic planning in both the Wilton and Greater Macarthur PGAs.

1.4 Critically endangered ecological communities

The Biodiversity Study states that 70% of the vegetation across the Wilton and Greater Macarthur PGAs will be retained, with the mapped 'conservation areas' conserving 3,080 hectares (ha) of the total 4,360 ha of native vegetation. OEH notes that the vegetation communities that are most preserved are not the critically endangered ecological communities (CEECs).

Across the two PGAs the combined loss of Cumberland Plain Woodland for example is 59% (PCT 849) and 74% (PCT850). For the CEEC Shale/Sandstone Transition Forest (SSTF) the combined

loss across the two PGAs is 26% and the loss in Wilton alone is 373 ha. This is considered by OEH to be a significant loss.

As discussed above, much of this vegetation is expected to be unassessed Tx vegetation that could be in moderate to good condition and could be red flagged vegetation in a biodiversity assessment.

1.5 Bushfire Assessment

The *Wilton Junction Bushfire Protection Assessment* (BPA) (Whelans Insites 2014) covers the entire Wilton PGA and is based on site investigations in May and June 2013. It has not been updated to consider the Biodiversity Study. The BPA states that due to “*much of the Wilton Junction areas being affected by large APZ requirements it is envisioned that some areas of forest beyond the dashed green line on the plan set may be managed as an outer protection area*”. (OEH bolded text).

This is not consistent with the Biodiversity Framework that states bushfire asset protection zones for new urban development should be located outside of the proposed conservation areas (ELA 2017 p25) or the LUIP Background Report (p50) that states that asset protection zones should be located wholly within the urban suitable land for new developments and not within high biodiversity constrained land.

1.6 Sustainability measures

OEH supports the inclusion of Section 7.3 on liveability and sustainability and Section 7.4 on climate resilience. OEH is supportive of:

- investigating the potential of the new development to achieve net zero emissions as this supports the NSW target. Renewable energy generation could be considered on a building or precinct scale with battery storage
- using a precinct sustainability tool
- increasing resilience to climate change action such as incorporating green cover.

1.7 Water Management

OEH provided comment (DOC17/272714) on the need for an integrated water management strategy for the Wilton PGA in May 2017. Although the LUIP states that it has been supported by a water quality technical report (p6) there is no supporting water quality technical report provided as part of the public exhibition.

OEH recommends that an assessment be undertaken in accordance with the *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* (OEH 2017). The Framework has been developed to guide strategic land-use planning decisions that protect waterways at local scales (subcatchment, precinct and/or lot scale).

As discussed previously, integrating water as early as possible into the land use planning process provides the best opportunity to achieve optimal solutions and implement efficient and effective best management practices. Significant opportunity exists for government to integrate water sensitive design principles into the strategic planning stages for PGAs. The key mechanism in realising desired outcomes for integrated water cycle management is ensuring that benefits are sufficiently identified and accounted for in an economic analysis. In doing so it should be approached from a quadruple bottom line perspective that encompasses economic, social, environmental and governance considerations.

1.8 Aboriginal cultural heritage

OEH commented in December 2015 on an earlier version of the *Greater Macarthur Investigation Area, Aboriginal Heritage and Historic Heritage – Gap Analysis and Future Direction* (AHMS May 2015). OEH has not reviewed the revised report.

PART 2 Wilton South East Planning Proposal

2.1 Biodiversity certification

The Wilton South East Precinct Planning Report states that “*to enhance and protect the precinct’s natural assets, we are pursuing biodiversity certification, a process that addresses biodiversity issues upfront, allows for the offsetting of the biodiversity impacts of development and certifies land as appropriate for development. Biodiversity Certification will allow the management of any unavoidable clearing for essential infrastructure to be offset within the precinct or adjoining lands*”.

The PP refers to the need for offsets and that the “*final outcome can only be determined through a bio-certification application and the proponent undertakes to complete a Bio-certification process within 2 years of the gazettal of the planning proposal*”. As stated above, rather than pursuing biodiversity certification assessment after rezoning has occurred, OEH recommends that the process be made prior to rezoning and that is done in accordance with the principles of biodiversity certification so that biodiversity issues can be addressed up front.

2.2 Ecological assessments

OEH commented on the draft Wilton South East Planning Proposal under s. 34A Special consultation procedures concerning threatened species of the *Environmental Planning and Assessment Act 1979* in a response dated 1 June 2017. S34A requires the relevant authority to consult with the Chief Executive of the OEH if, in the opinion of the relevant authority, critical habitat or threatened species, populations or ecological communities, or their habitats, will or may be adversely affected by the proposed instrument. In this response OEH raised concerns that the ecological assessments lacked consistency and currency and needed to be brought into a single comprehensible compilation to address impacts on all flora and fauna before public exhibition. Particular emphasis was given to the need to address impacts on koalas and derived native grasslands.

The latest report is titled *Ecological Summary Report for Walker Corporation (ESR)* by Cumberland Ecology July 2017. The only amendment to the ESR in response to the s.34A submission is the inclusion of Figure 1.3. The ESR appears to supersede the report titled *Ecological Issues and Assessment Report (EIAR)* (Cumberland Ecology & Gunninah May 2016) despite the 2016 report forming part of the exhibition documentation. It is noted the 2016 report covers a broader area than the Wilton South East site and was reviewed by OEH in July 2016.

The 2016 and 2017 reports have not been revised to address the issues previously identified by OEH including mapping of derived native grasslands and to incorporate the new information from OEH’s recent koala research project.

Figure 5.3 and Figure 9.1 in the EIAR provides Atlas records for threatened flora and fauna but only includes records up to 2015. Use of the most current Atlas data available is important to inform the ecological assessment. There have been some recent additions to the Atlas data as a result of the OEH and Wollondilly koala research project. This includes a koala record from 1998 within the subject land. There are also 2 records of koalas killed on Picton Road (2007 and 2016) adjacent to the site and other koala records in adjoining areas that should be used to inform the ESR.

2.3 Koalas

OEH identified in its previous s.34A advice that recent research was providing more information on koala movements and habitat requirements in the region. It was advised that development in the south-east portion of the site will impact on a linkage between the Nepean River and core habitat in NPSW Estate and will impact the local and regional koala population. OEH also proposed koala-proof road fencing along Picton Road to direct koalas into underpasses associated with the Allens Creek and Allens Creek tributary culverts to reduce koala roadkills at this location, which is a known hotspot. The large numbers of koalas being hit at the Allen’s Creek roadkill hotspot shows that: koalas are regularly using this corridor to disperse; that koalas live and breed in this corridor/core

habitat (as evidenced by females with young being hit); that measures should be undertaken to retain and enhance this important corridor via fencing (roads and urban development) and restoration of cleared land within the corridor is needed for vegetation connectivity.

Since this advice was provided, OEH has obtained more detailed information on koala populations in the region and as mentioned previously, has been working with Wollondilly Shire Council on a koala research project. Although this research work will not be completed until 2019, a draft Koala Conservation Strategy for the Wilton and Macarthur Priority Growth Areas has been prepared by OEH to inform this and other strategic planning decisions (Attachment 2).

Within this strategy four key principles to guide koala conservation have been identified to ensure populations remain connected and viable:

1. Retain core habitats and primary corridors
2. Separate residential development and koala populations to minimise ongoing threats from domestic dogs and vehicles
3. Identify critical revegetation zones that will augment and strengthen corridors
4. Identify roadkill hotspots along Picton Road, Appin Road and the Hume Hwy that require fencing and underpasses to allow safe koala crossing.

In applying these principles to the Wilton development OEH provides the following recommendations:

Retain core habitats and primary corridors

The Wilton South East Planning Proposal directly adjoins two of the largest koala corridors (Allens and Cordeaux) in Wollondilly LGA which together contain almost 2000 ha of core koala habitat.

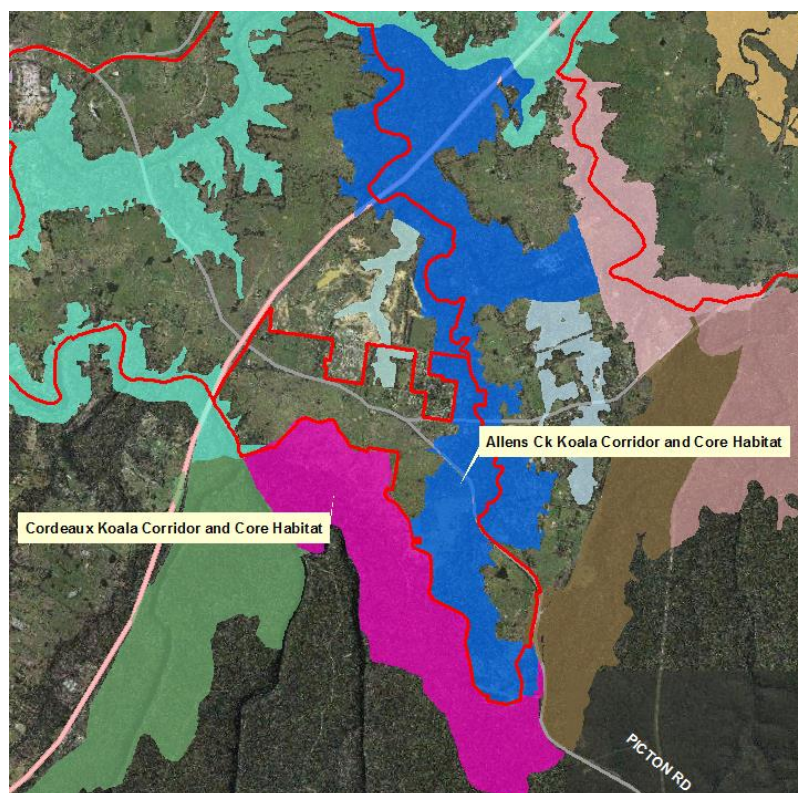


Figure 1: Identification of the Cordeaux and Allens Creek Primary koala corridors.

The Allen's Creek Corridor and Cordeaux Corridor are important core habitat for the regional koala population. Based on 370 new spotlighting sites for koalas undertaken as part of the Wollondilly Koala Conservation Project, the density of koalas within core habitat is estimated to be 1 koala for every 19 hectares (0.052 koalas per hectare). This means that Allen's Creek and Cordeaux Corridors contain a significant component of the *regional* koala population (for the area bounded by Campbelltown in the north to the Avon-Nepean River to the south and west) (Table 1). Together, the Allen's Creek and Cordeaux Corridors contain 23% of the regional koala population. Severing or degradation of this corridor will impact on the size and viability of the regional koala population.

Table 1: Koala Corridors within the Wilton and Macarthur Priority Growth Areas including area of core habitat contained and estimated numbers of koalas it supports.

Corridor Name	Corridor Rank	Habitat	Area of Core Habitat (Ha)	Est. Number of Koalas	Percentage of Regional Koala Population
Nepean	Primary	Core	1742.58	91	21%
Allens	Primary	Core	1235.17	64	15%
Wallandoola-Cataract	Primary	Core	1193.03	62	14%
Avon-Nepean	Primary	Core	1089.23	57	13%
Cordeaux	Primary	Core	628.64	33	8%
Cascade	Primary	Core	605.28	32	7%
Cataract	Primary	Core	381.38	20	5%
Ousedale-Mallaty	Secondary	Core	390.08	20	5%
Simpsons-Elladale	Secondary	Core	255.31	13	3%
Woodhouse-Menangle	Secondary	Core	220.33	12	1%
Noorumba	Secondary	Core	122.01	6	1%
Clements	Secondary	Core	107.86	6	1%
Stonequarry	Tertiary	Core	124.15	6	1%
Myrtle	Tertiary	Core	84.48	4	1%
Stringybark	Tertiary	Core	78.43	4	1%
Leafs Gully	Tertiary	Core	34.52	2	<1%
Total	All		8292.46	433	

This area is within the Allens Creek corridor and almost wholly surrounded by core koala habitat. Residential infill of this area will result in reduced connectivity and viability of koala populations within the Allens Creek and Cordeaux koala corridor. OEH advises that development within the cleared lands and scattered trees in the south-east corner of the site may have a significant impact on the koala population.

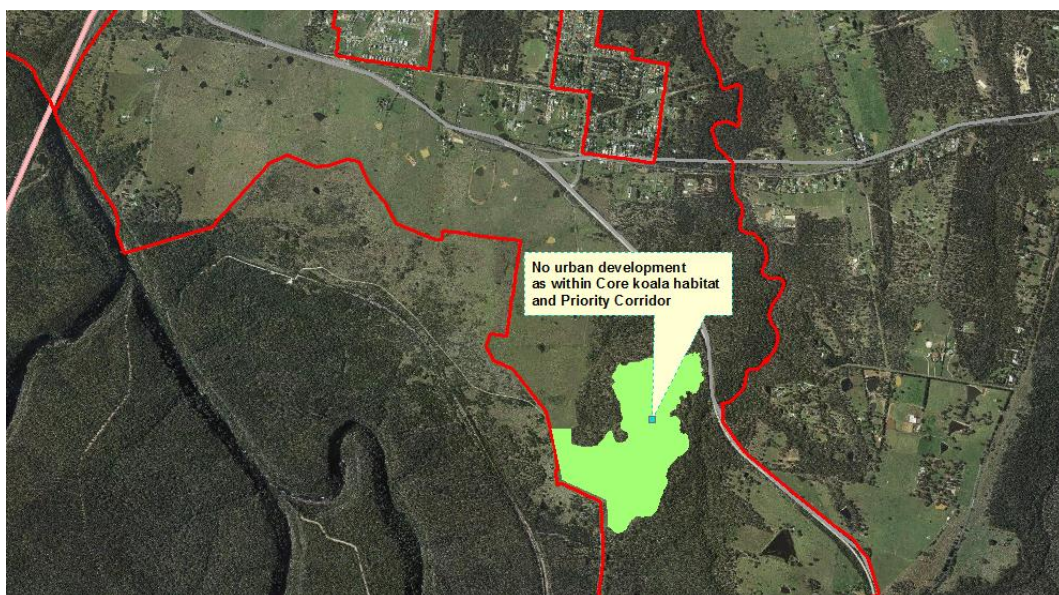


Figure 2: Area within Koala Primary Corridor and Core Habitat which should be excluded from development

Identify critical revegetation zones that will augment and strengthen corridors

The cleared lands and scattered trees in the south-east of the site are a high priority for revegetation to augment and strengthen the Allen's Creeks and Cordeaux koala corridors (Figure 3). Wider corridors and larger areas of habitat are better than narrow corridors and smaller areas of habitat. The cleared area is almost fully enclosed by high quality koala habitat and residential development would introduce threats and compromise the corridor value. The conservation of the koala population would be greatly enhanced by returning this area to high quality habitat, an outcome that would consolidate and double the width of the existing primary corridor and result in a far more sensitive urban design outcome.

Protection of the vegetation and restoration of the degraded areas could potentially be funded through offsetting arrangements for other development in western Sydney, and to meet other offsets requirements arising from major projects or under the new *Biodiversity Conservation Act 2016* and delivery of offsets by the newly established Biodiversity Conservation Trust. There is strong demand in the market for biobank/ biodiversity stewardship agreement sites in Western Sydney.

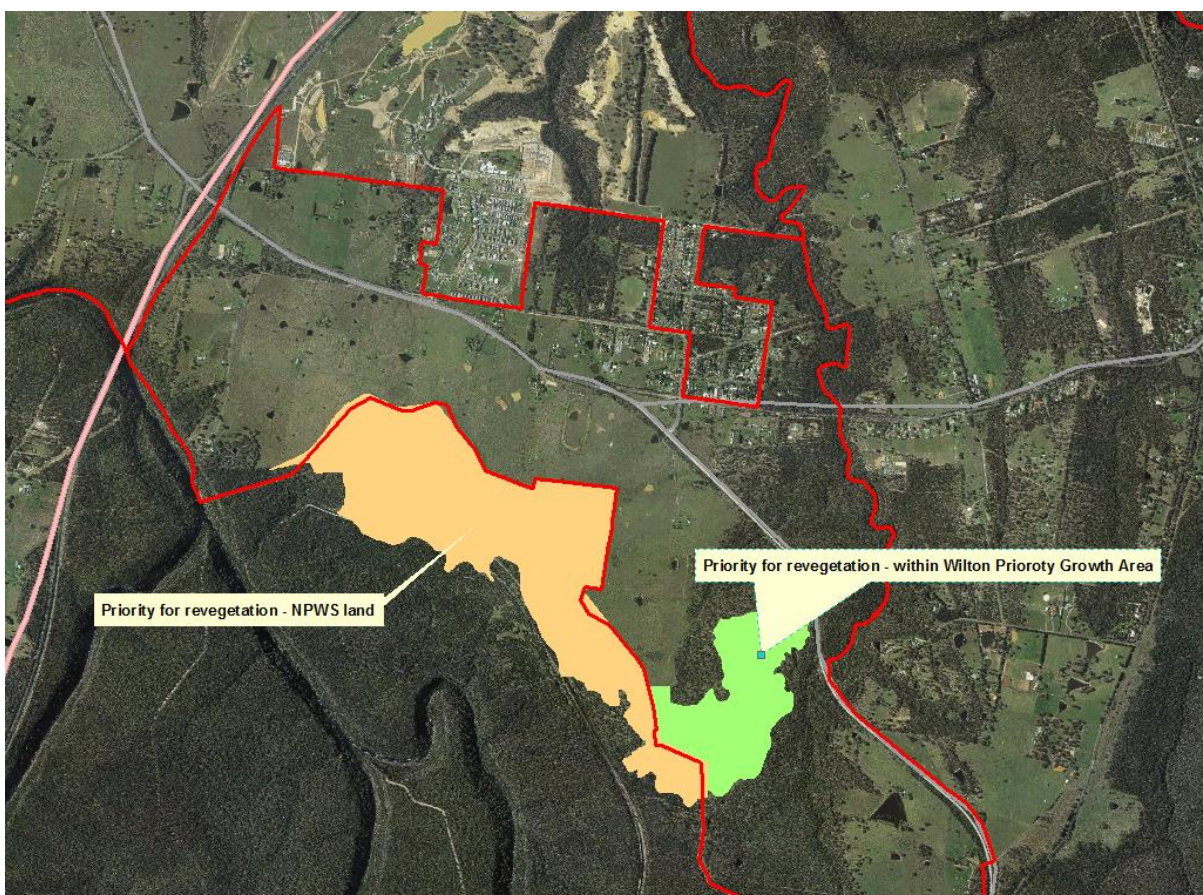


Figure 3: Priority areas for revegetation to strengthen and augment Primary Koala Corridors and Core Habitat and UNSCA

Separate residential development and koala populations to minimise ongoing threats from domestic dogs and vehicles

Residential development poses direct and indirect threats to koala populations. Facilitating koala access into residential areas exposes them to greater threats such as domestic dogs, cars and swimming pools.

OEH recommends that development within the Wilton South East precinct be separated from UNSCA land and core koala habitat with koala proof fencing (Figure 4). This will ensure koalas are not exposed to the threats urban areas present. In addition, it will achieve catchment integrity outcomes required by WaterNSW by preventing public access to the Metropolitan Special Area.

Separation of residential development and koalas also includes impacts such as asset protection zones that should be achieved within the development area and not encroach into koala habitat or the adjoining reserve land.

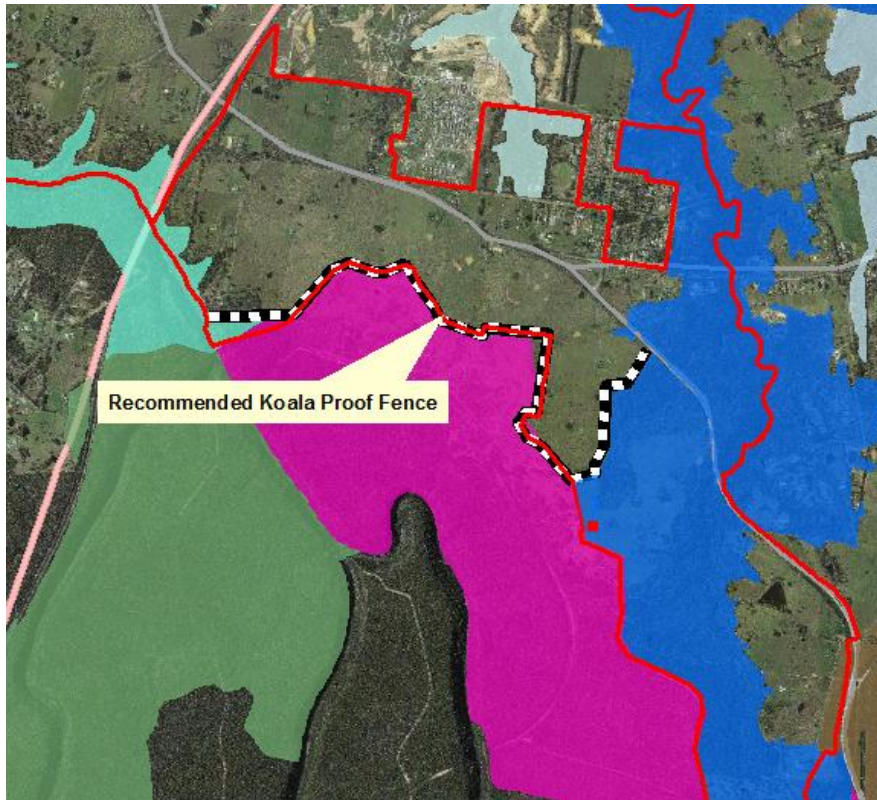


Figure 4: Recommended placement of koala proof fence to separate koala populations from residential areas within the Wilton South East Precinct.

Identify roadkill hotspots along Picton Road, Appin Road and the Hume Highway that require fencing and underpasses to allow safe koala crossing.

Koala roadkill is an increasing threat to koalas in this area. Much of the remaining koala habitat is divided by major roads, with Picton Road, Wilton Road and MacArthur Drive all traversing areas of core habitat and primary corridors. The prospect of large-scale residential development will result in significant increase in traffic and may require the widening of these major roads. Such upgrades provide an opportunity to implement roadkill mitigation measures.

Two roadkill hotspots have been identified based on collation of records in the NSW Wildlife Atlas (Figure 5). These are along Picton Road. Options to reduce koala mortality on this road include exclusion fencing and improved road underpasses, preferably along existing gully lines such as Allens Creek (Figure 5). OEH does not consider signage as an effective roadkill mitigation measure on major roads.

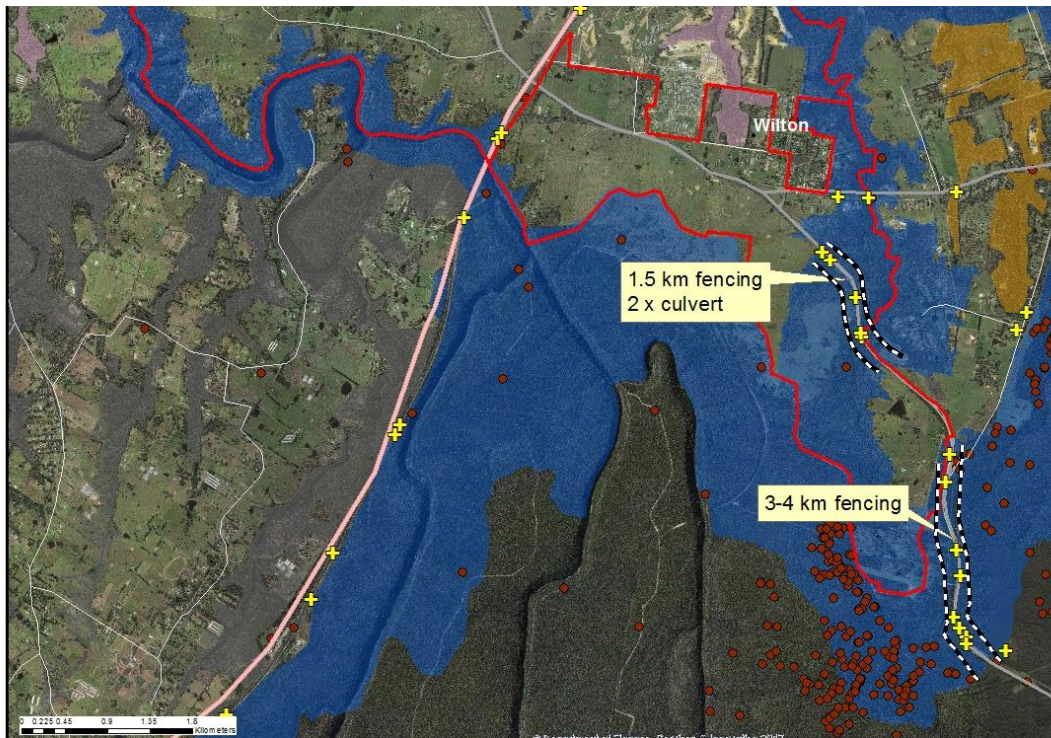


Figure 5: Identified road kill hotspots on Picton Road and location of recommended mitigation measures.

2.4 Critically Endangered Ecological Communities

The ESR quantifies losses of 8.7 ha Cumberland Shale Plains Woodland (CPW), 6.89 ha of DNG and 0.47 ha of Shale Sandstone Transition Forest (SSTF) with 248 ha of low diversity native/exotic grassland. In total, a loss of 16 ha of CPW has been identified within the development footprint. This still does not meet an avoid and minimise approach to biodiversity impacts.

In addition to the above calculation there is an area of approximately 3.5 ha of Shale Plains Woodland mapped in the northwest of the site alongside Picton Road (Cumberland Plain West Vegetation Mapping OEH 2013). This area has not been included in the ecological assessment area or included in the loss calculations. OEH considers it should be included as a loss based on the draft LEP map that shows this land zoned B5 and the associated losses arising from the proposed road widening to facilitate the precinct development. Road widening is also expected to occur further south along Picton Road which will result in the removal of further vegetation. This loss also does not appear to have been considered in the ecological assessment.

2.5 Derived Native Grasslands (DNG)

OEH has previously commented that the adequacy of the DNG survey and assessment. The ESR updates previous mapping to now include DNG along the western edge of the central 'finger' of vegetation. This vegetation is within the development area and is proposed to be zoned R2 Low Density Residential and RU2 Rural Landscape.

However, the ESR refers to 252.53 ha of low diversity native/exotic grasslands on the site. This is likely to be an underestimate of DNG across the site. A survey in accordance with OEH 's recommended approach to the mapping of DNG as provided in comments dated July 2017 would enable more confidence that the potential for DNG to be impacted across the site had been adequately considered.

2.6 Bushfire Assessment

As noted above the *Wilton Junction Bushfire Protection Assessment (BPA)* (Whelans Insites 2014) exhibited in support of the Wilton South East PP covers the entire Wilton PGA and is based on site investigations in May and June 2013. While OEH does not have expertise to comment on the

adequacy of the bushfire protection measures it is noted that the assessment covers impacts from the Wilton Junction Master Plan (Figure 3.1) rather than the current planning proposal.

The vegetation onsite and adjoining is classified as a Category 1. APZ widths presented in Table 1 of the BPA vary from 15 metres to 60 metres. It is noted that vegetation in the adjoining Upper Nepean Catchment Special Area is categorised as woodland as it is expected that it would regenerate over time. OEH supports this approach as it is consistent with the *Upper Nepean State Conservation Area Draft Plan of Management (dPOM)* (NPWS 2017) that the areas will be revegetated over time. A medium priority action in the dPOM is to restore cleared and disturbed areas where threatened ecological communities occur. All asset protection measures will need to be accommodated within the development area.

2.7 Water quality

The LUIP states that a water cycle management strategy that promotes stormwater reuse and harvesting and potable water conservation should be part of future precinct plans that adopt water sensitive urban design principles. The technical reports provided to support the Wilton South East PP date from 2013/2014 and were prepared for the greater Wilton PGA. They do not address the revised footprint and proposed rezoning, or provide adequate information on the water quality measures proposed in the precinct.

OEH recommends that more consideration be given to ensuring the water quality objectives as articulated in the LUIP Background Report (p 49) such as promoting stormwater reuse and harvesting and potable water conservation are achievable. Climate change impacts should also be considered.

The *Wilton Junction Water Cycle Management Strategy* (Wyndham Prince 2014) shows the likely location of a proposed 35,000m³ regional detention basin online in the Allens Creek tributary (Figures 5 and 6). This is stated to be the optimal solution to manage peak flows in Allens Creek but would not be supported by OEH as it would impact on the biodiversity values of this area. This impact has not been assessed in the precinct planning ecological assessment. It is questioned how this is consistent with the retention of a Vegetated Riparian Corridor of 20 metres to a 2nd order watercourse. Rainwater gardens are also shown in the vegetated conservation area.

It is recommended an updated and detailed integrated water management strategy assessment for Wilton South East be prepared that fits within the broader Wilton strategy and that provides sufficient details of the design, location and performance of the stormwater management structures. Impacts on conservation areas should be avoided.

2.8 Adjoining park issues

As noted the Wilton PGA adjoins the Upper Nepean State Conservation Area (UNSCA) which is jointly managed by NPWS and WaterNSW. The proposed zone map shows a R3 Medium Density residential zone very close to the park boundary. There is not an adequate buffer provided between the higher density residential zone and the UNSCA.

It is recommended that OEH's adjoining park guidelines be referred to for future planning of the precinct (<http://www.environment.nsw.gov.au/resources/protectedareas/development-land-adjoining-130122.pdf>). It is noted that the consent of OEH is required for any discharge of stormwater into a park, for example, where a development proposes new infrastructure that alters stormwater flows and directs them into a park.

2.9 Sustainability and climate change

Although the LUIP incorporates climate resilience, liveability and sustainability principles there is little detail in the precinct plan to demonstrate how these have been considered or will be implemented. For example, the LUIP suggests precinct plans will incorporate green cover to avoid increasing

urban heat, design infrastructure to be climate resilient and to investigate the potential for new development to achieve zero emissions.

The *Wilton Junction Ecologically Sustainable Development Report* (Elton Consulting 2014) (ESD Report) states that the Wilton Landowners Group will be responsible for developing a development control plan (DCP) that will deliver on climate change adaptation and mitigation and sustainability initiatives. OEH considers these details should form part of the PP documentation and inform the DCP rather than being deferred to a later stage in the design process.

2.10 Management and ownership of conservation lands

OEH supports the zoning of conservation lands as E2 Environmental Conservation. However, no details have been provided in the PP planning report on how the E2 Environmental Conservation lands will be owned and managed. The ESD Report states that a developer-led Environmental Trust will provide on-going resources to manage approximately 615 hectares of environmentally sensitive lands on the site.

OEH has previously commented on the adequacy of a private Environmental Trust to manage conservation lands in perpetuity. It is considered that private ownership of conservation areas is best achieved when there is a conservation measure in place which guarantees the conservation of biodiversity values in perpetuity (e.g. Biobank or a Stewardship Agreement).

Bushfire asset protection areas, stormwater/raingarden or other infrastructure should be located outside the E2 conservation lands. Fencing to residential areas will be required to ensure koalas are not encouraged into residential areas.

2.11 Aboriginal cultural heritage

The ESD report states that significant Aboriginal heritage sites and landmarks will be protected and, where possible, celebrated within the landscape design. The Planning Report states there are four Aboriginal sites within the WSPP. A further six sites are located within proposed conservation areas along creek lines (Kayandel July 2014: Figure 27). It is stated that "*the one highly significant site - an identified scar tree, can potentially be retained within open space/landscaping adjacent to Picton Road*".

As OEH has previously advised, Aboriginal cultural heritage conservation outcomes are best achieved up front at the planning proposal stage as this approach provides the best certainty. The documentation that supports this PP does not provide details on how these sites will be protected.

(END OF SUBMISSION)