

**Cumberland Plain Conservation Plan
Community Reference Group**

Final Report - October 2020

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1. Introduction and Summary

The NSW Government is developing a **Cumberland Plain Conservation Plan** (CPCP, the Plan) for Western Sydney to 2056, to protect the threatened plants and animals in Western Sydney as new areas ('actions') are opened up for development largely for housing and roads. It has been produced by the Department of Industry, Planning and Environment (DIPE) to meet the 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. It focuses on avoiding, mitigating and offsetting biodiversity impacts in proposed priority urban development areas and major transport infrastructure ('actions')¹ in the Cumberland bioregion.

The Cumberland Plain has been extensively cleared over many decades and the remnant natural areas are rightly regarded as precious and irreplaceable. Additionally the green spaces and remaining mature trees are widely recognised by the community, the Plan and Greater Sydney Commission and the Premier's Priorities to provide an essential part of the resilience fabric of an urban area with clean air, recreational resources and urban heat alleviation.

The Community Reference Group (the Group)² was established in 2018 to advise on the development of the CPCP and we regard current development and environmental assessment processes (site by site or biocertification) as the final verdict on what will remain and be restored. While there have been numerous plans to protect biodiversity each time land is released for housing, the evidence in the Plan and below shows none of these biodiversity protection plans have stopped species becoming more endangered. **The critical question for the CPCP is - can it and the associated decision making processes avoid the mistakes of the past?**

We note that the environmental information for the species impacted by the actions extends beyond the targeted urban growth action areas. As such it is a useful input upon which to develop a comprehensive region-wide conservation plan. We urge the government to develop further conservation acquisition and zoning programs in order to direct development planning away from identified conservation areas post 2056 - to preempt attempts to develop areas outside the target urban footprint prior to this date.

Offsets (particularly those outside the region) or restoration programs are not of equal environmental value to conservation of remnant habitat in situ and their connectivity. While 'Avoid', 'Minimise', 'Mitigate' is the appropriate sequence of action, there must be robust attention and resources to avoiding critical loss of biodiversity and ecosystem function. While

¹ See pp27-33 of the Draft Cumberland Plain Conservation Plan 2020-56 for a full list of actions covered by the plan.

² See Section 5 for members.

‘Offsets’ are likely to play a role in the ultimate plan, the CPCP needs to fully enact avoidance as a first choice. The Group also sought advice on what existing offsets were in place and registered its concern about ensuring additionality (avoiding double dipping) and their long term protection.

A crucial principle discussed by the Group is the importance of (sufficiently wide) corridors of green and blue to carry faunal populations – east/west and north/south including floodplains in the region to help alleviate fragmentation impacts and allow faunal movement and expansion. In addition such corridors enhance the urban environment fulfilling the government’s desire to improve the community’s quality of life and reduce harm from the heat island effect and climate change. Such environmental services are not only of value in the present, but increase in importance over time.

Of great relevance to achieving the best outcome for conservation and future living we strongly urge that conservation and green space assets are in place and enforceable before development takes place. This will require the use of a range of government planning and financial powers, deploying the environmental information garnered by the Plan process, at all levels of council, state and federal decision making. The removal of uncertainty and risk to the long term protection of green space and bushland should be paramount both for their ecological health and ensuring residents retain the benefits from environmental services.

Restoration is an important activity, but we urge that in the first five years available funding is largely devoted (90%) to land acquisition.

The Group is keen to see that bushland, green space, restoration and riparian areas are not degraded by turning them over to infrastructure, hard-edged facilities or asset protection zone (APZ) requirements. We are also aware that to date, biocertification, offsets and biodiversity stewardship are yet to consistently deliver high quality outcomes and obtain general community acceptance.

The Cumberland Plain Conservation Plan offers the opportunity to get it right.

Our report seeks to support an improved program that maximises conservation and future resilience of native biodiversity; is effective and transparent; well resourced; allows for restoration and is reliable in its delivery over time. The Community Reference Group endorses nine key principles:

- 1. The great Two Rivers Sydney Circuit** - the Cumberland Plain Plan should be set in a broader context recognising and linking to the ecology of Sydney and its green grid. Within this context, the plan needs to respect the existing cultural landscapes and protect the scenic landscapes.
- 2. Wildlife corridors** – prescribed, wide wildlife setbacks primarily along creeks and rivers to establish contiguous corridors across the landscape, for resilient populations including for Koalas and woodland birds.

- 3. Remnant bushland protection** - the Plan identifies particular parcels of remnant bushland that offset or avoid the impacts of the actions, that need to be protected as a reserve; or via E2, Environmental Conservation zoning A fundamental principle should be that such areas are larger than the number of hectares required simply for offsetting, because of the past history of extensive clearing. If as a last resort biodiversity stewardship is used, it must be upfront, proximate, additional, contiguous and zoned environment protection.
- 4. Remnant bushland management** - while protection of remnant bushland is a necessary first step in conservation, there is a further requirement for active management to ensure that ecosystem natural processes and viable populations of the species present are ensured for the future. Otherwise, the numerous threats faced by the remnants, scattered over the landscape, will lead to their gradual degradation over time.
- 5. Land clearing must be avoided prior to development decisions and minimised after, including of mature trees** – this is particularly important when specific and staged development gets the go-ahead and to prevent pre-emptive clearing. Also the Plan should not ignore some lots too small for biodiversity stewardship, for example where there is significant biodiversity and threat of clearing / development with small lots throughout much of the Penrith and Liverpool areas.
- 6. Regeneration of natural areas** – will be an essential activity connecting and enhancing remnant habitat and providing employment benefits. However, the restoration activities and management actions need to be optimised for delivery of high quality conservation outcomes. While regeneration and restoration is an important component of conservation management, the highest priority for conservation should be retention of existing habitat.
- 7. Wildlife terrestrial crossings** - all new major roads or upgrades must provide an alternative wildlife crossing, when they cut into existing conservation areas and designated wildlife corridors. These crossings need to accommodate Koalas and other species, so must either be large culverts with dry ledges or large overpasses.
- 8. Cultural landscapes** – must recognise AUSTRALIA ICOMOS and ISCCL³ guidelines for protecting and enhancing scenic landscapes and manage and monitor significant cultural landscapes of the Cumberland Plain through local government LEP controls.
- 9. Ongoing governance of the Cumberland Plain Conservation Plan** - must be best practice, robust, have sufficient funding and not be subject to erosion over time; and supported by federal biocertification and powers.

³ ICOMOS International Scientific Committee on Cultural Landscapes (ISCCL) www.icomos.org › committees › list-and-goals-of-isccl

2. The Cumberland Plain Conservation Plan

The Cumberland Plain Conservation Plan identifies how biodiversity impacts from projected growth in Western Sydney will be addressed. It aims to help protect the area's important biodiversity on a landscape scale for the long term, by establishing new reserves and biodiversity stewardship sites, driving ecological restoration and delivering threat management programs.

This was earlier reflected in the then government's 2011 'Cumberland Plain Recovery Plan' which aimed to:

'cater for the population's need for housing and jobs, while at the same time looking after a rapidly disappearing landscape and need for green space. The best way to do this is by taking a proactive and strategic approach by identifying and protecting the biggest, most viable remnants of native vegetation rather than considering it piece by piece and development by development.'

Nevertheless the rezoning of land from rural to residential within Western Sydney and Greater Macarthur has not stopped, as recently demonstrated by the scale of threats to Koala habitat and corridors in Wilton, Gilead and Appin. This has been the latest episode in a long history of failed conservation measures:

- The **County of Cumberland Planning Scheme**, introduced the idea of a 'green belt' which unsuccessfully prevented sprawl for greater Sydney, extending it around the anticipated outer limits of Sydney's growth from Mona Vale to Liverpool.
- In 1961, the Cumberland County Council published the **Webb Report**, which recommended the development of a satellite city at Campbelltown. The report highlighted the importance of protecting the area's attractive landscape setting and maintaining the surrounding agricultural land for rural production. Specifically, the report advocated for tight controls to guide the expansion of the satellite city so it did "not become another happy hunting ground for subdividers interested only in land speculation."
- In 1968 a new regional plan - the **Sydney Region Outline Plan** created by the State Planning Authority identified Campbelltown, Camden and Appin as a development sub-region. The design principles for the development included:
 - 3.31 (e) the urban pattern has been designed so that those who live in the cities will still be only a short distance from the countryside. **A linked system of open spaces will be employed** where possible, bringing the countryside further into the urban areas;*
 - 3.32 (d) **the Complex [the cities of Campbelltown, Camden and Appin] will have its setting formed by conservation and planting of ridges, high points, Georges River and Nepean River valleys.....The rural setting around the Cities (Central and Southern Hill Lands, the Razorback ridge etc) will be encouraged. This means retaining as many as possible of the existing trees.....***

The Structure Plan also identified the '*Georges River Open Space extends from Glenfield to Appin and includes some 27 kilometres of river frontage of fine rugged sandstone landscape and vegetation.*

- In 2011 the **Cumberland Plain Recovery Plan** was produced. The plan firstly, identified priority conservation lands of a total of 11,754 ha of the targeted threatened ecological communities (Cumberland Plain Woodland, Shale Sandstone Transition Forest, Shale Gravel Transition Forest) representing 40% of their combined remaining extent. Second, a network of corridors on the Cumberland Plain was mapped.
- In May 2018 the government released the **NSW Koala Strategy**, committing \$44.7 million towards securing the future of koalas in the wild. The Strategy responded to the **Independent Review into the Decline of Koala Populations in Key Areas of NSW** (NSW Chief Scientist and Engineer 2016), which contained serious concerns about the species future and recommended a whole-of-government koala strategy for NSW and specifically addressed the Campbelltown colony.

The Cumberland Plain Community Reference Group urges DIPE to not repeat the mistakes of the past and enforce robust environmental landscape protections that can survive into the future. The recent disastrous bushfires to the west of the Nepean magnify the importance of the Plan - protecting wildlife habitat and their corridors should be the first priority.

Study Area

The study area is 198,789 ha of the Cumberland plain sub-bioregion. A substantial part of the Cumberland IBRA subregion, the more developed parts to the east have been removed from this study area. The Growth Areas (GA) total area is 39,500 ha: Wilton Growth Area, Greater Macarthur Growth Area, Western Sydney Aerotropolis Growth Area, Greater Penrith Eastern Creek Growth Area.

Legislative Streamlining

The Cumberland Plain Conservation Plan for Western Sydney is being prepared by the Department of Planning, Industry and Environment (DPIE) to meet legislative 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 (EPBC Act).

Strategic conservation planning captures both the NSW strategic biodiversity certification and Commonwealth strategic assessment processes to provide a single integrated environmental approval for development.

NSW CPCP Approach

Impact assessment method and results

The Biodiversity Assessment Method (BAM) provides a robust and consistent approach for measuring the biodiversity attributes against benchmark values for Plant Community Types (PCTs), habitat features and threatened species within the four growth areas. The identified development footprints in each action area were assessed using BAM to determine ecological and species impacts, and to determine the number and type of biodiversity credits needed to adequately offset these impacts.

Conservation Investigation Areas/ Conservation Priority Areas/Restoration

Non-developed land across the (Cumberland) study area was assessed and classified for its conservation potential. Areas with significant biodiversity or restoration value were mapped as Conservation Investigation Areas (CIAs) and areas of best possible potential to secure those values long term were identified as Conservation Priority Areas (CPAs). 28,300ha was identified as strategic conservation, of which about 11,000ha could be protected through a variety of measures over the life of the Plan for species and habitat impacted by the actions. Three new conservation reserves are identified in the Conservation Program – Georges River Koala Reserve, Gulguer and Confluence Reserve Investigation Areas; and a Koala Sub-Plan is also included which addresses the Chief Scientist’s report (2020) on desirable wildlife corridors. Up to 25% of the Plan’s offset target will be met by ecological restoration (a Restoration Plan is being developed).

Planning measures

DIPE has been working with Councils to develop Local Strategic Planning Statements. DIPE is developing a Strategic Conservation Overlay which will identify key conservation areas to be managed through local provisions and an associated map. The overlay intends to protect biodiversity values identified on potential offset sites. Recognition of land for conservation in the planning system will help alleviate the issue of “double dipping”. Any property identified and secured for biodiversity stewardship is on the land’s title and this removes the opportunity to use it again for the same purpose. Development Control Plans will be used to manage ‘indirect and prescribed impacts’ from vegetation clearing and changes in land use patterns. (see Commitments 5 and 6 on pp55-56 of the Plan and exclusion fencing for Koalas). A State Environmental Planning Policy will be gazetted to ensure development in the target lands (‘actions’) is consistent with the Plan. Any proponent not involved with the process must still meet all biodiversity offsetting requirements under the Biodiversity Conservation Act 2017.

Avoidance criteria

Avoidance criteria have been used to avoid impacts to land with high biodiversity value within the urban growth action areas. Land avoided for its biodiversity value will be excluded from the development footprint. Intact vegetation areas and areas of ecological communities with a higher threat level (e.g. Critically Endangered) have been prioritised in the avoided areas (2,735ha). Other avoided lands are those not suitable for development (935ha) or are existing protected

lands. Environment Protection Zoning (E2) will be applied to these two categories. Lands also being avoided are those already being assessed through another approval process (such as Mount Gilead and Menangle Park) or may be required for additional (10%) infrastructure development beyond that certified urban capable. Further detail on the commitments is found on pp49-51 of the Plan.

Assurance (governance, accounting, MER etc) and funding

Governance of the Plan will be driven by DIPE and overseen by an executive steering committee comprising delivery partner agencies. Seven key stakeholder groups have defined roles and responsibilities (see p71 of the Plan). A Monitoring Evaluation and Reporting (MER) plan has been prepared which outlines: key data methods and datasets for monitoring, evaluation guidelines and reporting timeframes. The MER program will support adaptive management that will embed continuous improvement, provide transparency and respond to changes over the life of the Plan.

\$84m has been allocated by government to implement the first five years of the Plan, in an effort to embed some key conservation measures prior to any development. Further funding including the quantum of developer contributions are yet to be decided. Of note is that beyond the first five years, offsets may be acquired from outside the region ('anywhere in NSW'), if they cannot be found in the Cumberland subregion. The Plan also proposes 'adaptive management' if offsets cannot keep pace with development impacts and may include voluntary acquisition or a pause on rezoning. Such action is discretionary.

Commitments and actions

Actions are steps to achieve the Plan's commitments. Commitments are the defined milestones in the Plan which will be met through the delivery of actions. Together these form the conservation program to deliver the Plan's outcomes, which are the reported or measurable results of the desired goals of the Plan. Commitments and actions seek to operationalise partnerships and projects for on-ground conservation and are used as the basis for MER.

Engagement strategy

Targeted, relevant engagement took place with stakeholder groups across the second half of 2019. This was an extended process to enhance community understanding of the process prior to the draft documents being released, to secure support from key stakeholders and to gauge stakeholder sentiments as early as possible. Broad public consultation is now underway.

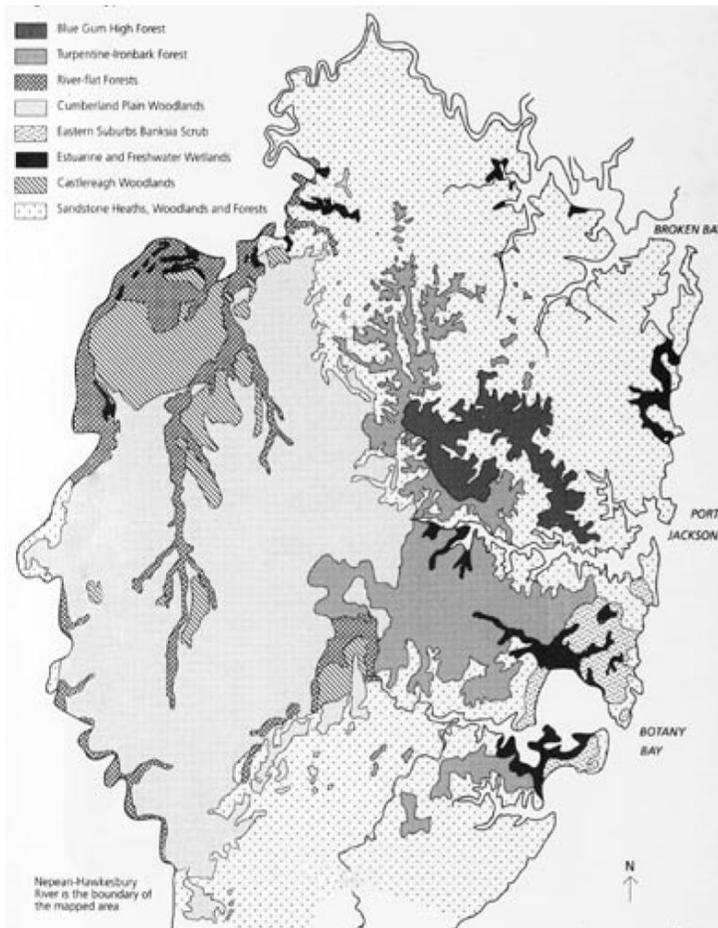
Business case and economic analysis

The business case has been developed according to NSW Government Business Case guidelines. It includes the case for action, cost-benefit and financial analysis and considers stakeholder views.

3. The Cumberland Plain Landscape⁴

Pre-colonial landscape – biodiverse via organically evolved indigenous management

The pre-colonial landscape was extensive grassy woodlands, with tall ironbark and turpentine forests, dry rainforests, and floodplain communities. It was managed by a vibrant Aboriginal community using controlled mosaic burning resulting in a ‘continuing cultural landscape’. This became a ‘relic cultural landscape’ with the advent of colonisation and the forced removal of Indigenous communities on the Plain. Below is a map of the vegetation types in 1788, by Benson & Howell (1990). The Cumberland Plain Woodlands covered nearly all of what is now western Sydney.



⁴ UNESCO/ICOMOS consider cultural landscapes fall into three categories; those landscapes ‘**designed**’ by humans for gardens and parks; those landscapes that have ‘**organically evolved**’ through social and economic use. Organically evolved landscapes are either ‘**relic**’ when their particular use has come to an end but evidence of their former use remains, or ‘**continuing**’ landscapes which retain their active cultural role and reflect changing uses over time. The third category are those landscapes that manifest strong spiritual or cultural association with significant natural features. These are ‘**associative**’ cultural landscapes. The Cumberland Plain as a cultural landscape reflects all three categories but is predominantly ‘relic’ and ‘continuing’.

Colonial landscape - agriculture and horticulture ‘organically evolved’ cultural landscape

The ‘Cumberland Plain Woodland’ is also a heritage landscape of national importance. It was on western Sydney’s river plains that the survival of the early colony was guaranteed. Botany Bay’s sandy shores provided little fresh water and Sydney Cove’s sandstone country could not sustain crops. Agriculture on the banks of the Parramatta River stopped Sydney Town starving, and the Hawkesbury - Nepean river plains allowed it to thrive.

Sydney is still remarkable, as a city that has, to date, been able to keep an historic food bowl largely separate from the intensity of residential development that occurred on the least productive land - sandstone and sand. A colonial landscape has remained along the Hawkesbury and Nepean Rivers.⁵ Around Macarthur, Australia’s earliest frontier, colonial landscapes are still visible - wayfinding Bunya pines, furrowed pasture land, Cobb & Co. tracks, scar trees, convict built dams and fortified granarie, to name but a few.

Modern landscape - residential explosion and fauna extinction

Sydney’s population has been growing at rates not seen since the early 1970s. In the last 10 years from 2009 to 2019 the population of Greater Sydney went from 4.5m to 5.3m (an annualized rate of about 1.5% a year). And the two areas of greatest growth at 20% - were both on outer Sydney’s Cumberland Plain - one in the South West, Cobbitty to Leppington; the other in the North West, Riverstone to Marsden Park.

The main threats to biodiversity and threatened species are the clearing of native vegetation followed by the fragmentation of remnant vegetation, which impedes regeneration and the movement of species across the landscape and leads to a loss of genetic diversity.^{6,7}

In the seminal 1990 publication on the state of Sydney's flora, ‘Taken for Granted: The bushland of Sydney and its suburbs’ by Benson and Howell, large areas within western Sydney were identified as needing ongoing protection. In 1877 the Cumberland Plain Woodlands covered 107,000 hectares occupying approximately 30 percent of the Sydney Basin. They have been reduced to a few fragmented stands by human use for farming, industry and housing. The remaining fragments occur in areas subject to intense pressure from urban development.

Independent mapping in a report by The Greater Sydney Landcare Network (2018) found that in the last decade at least 1,290 hectares of remaining vegetation have been destroyed. Further that ‘the biodiversity ‘offsetting’ policy had delivered a net loss of approximately 38-39% to

⁵ Britton, Geoffrey and Colleen Morris. 2000), *Colonial Landscapes of the Cumberland Plain*. Prepared for the National Trust of NSW.

⁶ Cogger H, Dickman C & Ford H (2007), *The Impacts of the Approved Clearing of Native Vegetation on Australian Wildlife* in New South Wales. WWF-Australia, Sydney

⁷ Taylor MFJ & Dickman CR (2014), *NSW Native Vegetation Act Saves Australian Wildlife*, WWF-Australia, Sydney

biodiversity values over the period, largely attributed to low offset ratios, high rates of illegal clearing and a high proportion of offset double-dipping.⁸

There are over 100 threatened species – 49 of which are impacted by the actions and targeted by the Plan.

⁸ State of the Cumberland Plain 2017-18, (2018) p5

4. Applying the Key Principles

4.1 The great Two Rivers Sydney Circuit – the Cumberland Plain Plan should be set in a broader context recognising and linking to the ecology of Sydney and its green grid. Within this context, the plan needs to respect the existing cultural landscapes and protect the scenic landscapes.

A wildlife corridor along the (Georges River) Tuggeroi and then connecting across, where the Nepean and Georges Rivers almost touch at Gilead, to the (Nepean-Hawkesbury River) Deerubbin. This wildlife superhighway connects the Sydney coast to the Blue Mountains, and Ku-ring-gai to the Dharwal. This would become an outstanding feature of Sydney and its global reputation in the 21st century. The beginnings of this trail are already established and idea germinated along the Georges River with the Kamia walk and along the Nepean - Hawkesbury with Penrith Council's Great River Walk.

Within this broader context, the plan needs to respect the existing cultural landscapes and protect the scenic landscapes. Apart from the Blue Mountains scenic landscapes, which are protected by World Heritage status, other scenic landscapes associated with the Cumberland Plain include Mulgoa Valley, the Bargo and Nepean River gorges, the Razorback Range at Picton and the Scenic Hills between Campbelltown and Camden, and the rural hills and ridgelines of the Camden and Wollondilly areas. These ridgelines should be protected and development should not diminish their scenic quality. The significant scenic landscapes and their viewsheds need to be mapped and proposed land-use changes overlaid to assess visual impacts, especially as the Plan suggests retaining such vistas along new east-west road links in growth areas. Similarly, the flatter and drier landscape of the Cumberland Plain could feature scenic waterway crossings. The Visual Analysis of Campbelltown's Scenic Hills and East Edge Protection Lands (Davies & Britton, 2011) provides an effective template to follow.

4.2 Wildlife corridors – prescribed, wide wildlife setbacks primarily along creeks and rivers to establish contiguous corridors across the landscape, including for Koalas and woodland birds. Enlivening fragmented habitat requires effective corridors to maintain viable populations and enhance the holding capacity of species in the Cumberland Region. This is essential to mitigate the stressors (urban development, weeds, pests and climate change) to minimise the risk of local extinctions and to expand the range and resilience of wildlife.

Guidelines for buffer zones around wetlands and riparian habitats in the Hawkesbury–Nepean catchment are not new. Benson & Howell (1993) recommended a 50-metre-wide strip on each bank along the full length of the river system including tributary creeks, to

protect remnant native vegetation along the Hawkesbury–Nepean River system, with linkages to be made to other areas of natural vegetation additional to those of watercourses. This has been partly built into the Water Management Act 2000 with their ‘vegetated riparian zones’ - a similar, but more extensive system is needed to take fauna into account.

The Plan offers the opportunity to remedy this and recommends - a north-south corridor along the Georges River between Appin and Kentlyn; an east-west connection between Burratorang SCA and the Gulguer Nature Reserve; and local connectivity to existing nature reserves via the Confluence Reserve Investigation Area.

However, the CPCP fails to adequately respond to the Chief Scientist’s report, ‘Advice on the protection of the Campbelltown koala population’ (2020) in regard to east-west corridors between the Nepean and Georges Rivers. A width of 390m plus 30m each side is endorsed. Only one such corridor (Ousdale) is selected, with the other five effectively discarded. We note, the Environment Minister, Matt Kean has recently reaffirmed the Chief Scientist’s report.⁹

The Group also highlights the opportunities along lands connecting the largest remaining Cumberland Plain Woodland remnant to the Blue Mountains (via the Kingshill corridor) and to South Creek (via Blaxland Creek Corridor) for further serious attention.

4.3 Remnant bushland protection - the Plan identifies particular parcels of remnant bushland that offset or avoid the impacts of the actions, that need to be protected as a reserve; or via E2, Environmental Conservation zoning. A fundamental principle should be that such areas are larger than the number of hectares required simply for offsetting, because of the past history of extensive clearing. If as a last resort biodiversity stewardship is used, it must be upfront, proximate, additional, contiguous and zoned environment protection.

Three new reserves are proposed – Georges River Koala Reserve, Gulguer and Confluence Investigation Areas. All would be completed over the long term in 10 to 15 years’ time. This is of great concern given the possible potential for the Plan to fray as development pressure continues to grow and offsets in the region may become difficult to obtain. Our strong recommendation is that currently allocated and further funds are largely directed at land acquisition for reserves and key corridors in the first five years, rather than restoration activity (some 1015ha are targeted for regeneration).

The Reference Group has been made aware by Deerubbin Local Aboriginal Land Council that they would be interested in a revised CPCP including larger scale

⁹ <https://www.smh.com.au/environment/conservation/84m-to-support-wildlife-protection-plan-for-cumberland-plain-20200826-p55pcq.html>

conservation outcomes alongside existing conservation areas and strategic corridors in the Penrith Local Government Area.

Noting the lack of such outcomes in this area in the advertised CPCP, the Group is supportive of such outcomes as it aligns with the conservation principles by avoiding impacts upon high conservation value areas and conserving larger, more contiguous areas thereby maximising the resilience of Cumberland Plain ecosystems and species within the existing reserves. It is acknowledged by the Group that DLALC seek employment and development outcomes on other lands owned and claimed by DLALC in the Penrith area.

The Reference Group has discussed and is supportive of DLALC's proposals to educate and employ young Aboriginal people in Aboriginal Land Management, Conservation Land Management and associated trade and skill qualifications as part of a Centre of Excellence for regeneration of Cumberland Plain Woodlands, including the establishment of a large native plant nursery. The Reference Group notes that the conserved areas will have to be actively managed to ensure long term success.

The CPCP will permanently isolate three of the four National Parks which currently protect significant areas of Cumberland Plain Woodland; the Wianamatta Regional Park, Shanes Park, and Colebee Nature Reserve via the M7 motorway and M7-Ropes Crossing Link Road proposals. This is contrary to the fundamental need to avoid additional fragmentation of habitat and should be addressed and resolved.

In regard to biodiversity stewardship sites – these need to be additional. For example, the Campbelltown Council reserve Noorumba was chosen as an offset for the Gilead development, but was already a state biodiversity stewardship and a Council site and a Bush Reserve maintained by volunteers. Further creation of vegetation islands should be avoided but rather form part of a plan to connect areas of habitat, (large and small).

4.4 Remnant bushland management - while protection of remnant bushland is a necessary first step in conservation, there is a further requirement for active management to ensure that ecosystem natural processes and viable populations of the species present are ensured for the future. Otherwise, the numerous threats faced by the remnants, scattered over the landscape, will lead to their gradual degradation over time.

There are many threats faced by biodiversity in remnant bushland such as pest and weed invasion, altered fire regimes, changes to hydrology, changes to soil nutrients or residual high levels of nutrients from prior land use, genetic problems arising in small, isolated populations, climate change and misuse by human visitors. Active management by land managers will be required to address these threats to ensure ongoing integrity of biodiversity and ecosystem processes. This will require evidenced-based management plans and the resources to implement them for all conserved areas.

4.5 Land clearing must be avoided prior to development decisions and minimised after, including of mature trees – this is particularly important when specific and staged development gets the go-ahead and to prevent pre-emptive clearing. Also the Plan should not ignore some areas too small for biodiversity stewardship and where there is significant biodiversity and threat of clearing / development with small lots throughout much of the Penrith and Liverpool areas.

The Plan envisages three instruments in the State Environmental Planning Policy for Strategic Conservation Planning to curtail some land clearing:

- A. E2, Environmental Conservation zoning on vegetated ‘avoided’ land in the identified urban capable footprint.
- B. Requirements for a development consent authority to consider and satisfy itself about biodiversity protection on lands within the larger Strategic Conservation Area (SCA) as identified on a biodiversity overlay.
- C. Requirements to ensure that asset protection zones are located wholly within urban capable land.

These instruments are welcomed by the Group as they create a strata of controls that seek to prevent indiscriminate or targeted damage to remaining natural vegetation for species impacted in the action areas. However, we highlight that the SCA does not include all other remaining habitat. Sufficient resources will be required to ensure compliance in future years and should build further to embrace other natural areas.

4.6 Regeneration of natural areas – will be an essential activity connecting and enhancing remnant habitat and providing employment benefits. However, the restoration activities and management actions need to be optimised for delivery of high quality conservation outcomes. While regeneration and restoration is an important component of conservation management, the highest priority for conservation should be retention of existing habitat.

There are significant opportunities to undertake high quality restoration. The Group received information about less than successful efforts in the past and a Restoration Plan is yet to emerge. The Plan refers to the Revegetation Guidelines of the NSW Biodiversity Conservation Trust but these do not offer sufficient guidance on the best quality and proven techniques. We understand the Revegetation Guidelines of the NSW Biodiversity Conservation Trust are being updated directed at de-risking revegetation as a component of biodiversity offsetting; putting greater accountability on those writing the management plans and requiring significantly more detail in the planning and detailing of proposed revegetation works. Subject to verification, works should be of a higher standard and be more likely to succeed than previously proposed works.

Nevertheless, the promise of regeneration works should not be allowed to hinder rapid acquisition of existing habitat by government and philanthropic groups. We also believe the current government funding should be allocated to such acquisition by reducing the planned use of 25% for revegetation, to 10% in the early years, as other sources of funding should become available for restoration via alternative government funding for employment and partnership with NFP programs. We note significant private funds for tree planting have become available post the bushfires.¹⁰

4.7 Wildlife terrestrial crossings - all new major roads or upgrades must provide an alternative wildlife crossing, when they cut into existing and regenerated wildlife corridors. These crossings need to accommodate Koalas and other species, so must either be large culverts with dry ledges or large overpasses. Two such Koala crossings are proposed for Kings Fall Bridge and Ousedale.

While it is welcome that Koala fencing will be installed along Appin Road, every effort must be made to not quarantine the animals by preventing their migration to new areas. As noted in the Koala Plan, the Southern Sydney population is the only one out of 13 colonies in NSW that is recovering. It is the Group's strong view that extra efforts must be made to implement further east-west crossings between the Georges and Nepean Rivers and we note that measures to protect vegetation and a sufficiently wide corridor for future restoration in these sites (Commitment 12.3) is unclear.¹¹

4.8 Cultural Landscapes - must recognise AUSTRALIA ICOMOS and ISCCL¹² guidelines for protecting and enhancing scenic landscapes and manage and monitor significant cultural landscapes of the Cumberland Plain through local government LEP controls.

This will require mapping and an analysis of the fabric, elements, significant cultural plantings in order to address Planning Priority W16- '*protecting and enhancing scenic and cultural landscapes.*' The Plan supports the delivery of infrastructure, housing and jobs for Western Sydney in a planned and strategic way aspiring to protect and maintain important biodiversity, but it does not indicate how this would be achieved while '*protecting and enhancing cultural landscapes.*'¹³

¹⁰ <https://www.smh.com.au/environment/conservation/australia-to-get-25-million-trees-to-help-recover-from-last-summer-s-bushfires-20200921-p55xtm.html>

¹¹ "Protect avoided koala habitat through environmental conservation zoning in potential east-west koala movement corridors between the Georges River and the Nepean River." This only applies to existing vegetation.

¹² ICOMOS International Scientific Committee on Cultural Landscapes (ISCCL) www.icomos.org › committees › list-and-goals-of-isccl

¹³ See also Morris, Colleen and Britton, Geoffrey. Curtilages - getting beyond the word: Implications for the colonial cultural landscapes of the Cumberland Plain and Camden [online]. *Historic Environment*, Vol. 15, No. 1/2, 2001: 55-63.

4.9 Ongoing governance of the Cumberland Plain Conservation Plan - must be best practice, robust, have sufficient funding and not subject to erosion over time; and supported by federal biocertification and powers.

The Group is very concerned that if offsets cannot be found in the Cumberland region, then they can be obtained from anywhere in NSW after 5 years. This is effectively a major breach of the intention to protect and improve the Cumberland natural environment, as there will be a clear loss of biodiversity. The more this takes place, the more the environmental objectives are devalued. While the clear designation of urban capable lands assists to prevent speculation about future development (and resisting biodiversity stewardship agreements) up to 2056, more needs to be done. The Plan needs to have an improved set of barriers preventing such disconnected offsets being an easy choice.

There have been questions about the adequacy of monitoring of biodiversity stewardship and their deterioration over time. The Plan should have a specific focus on compliance mechanisms for biodiversity stewardship agreements.

An executive level committee and compliance working group will be established and there will be annual updates published and independent five-yearly reviews. Where non-compliance requires corrective action, “the department or other party will be provided with the opportunity to correct non-compliance.” There is no mention of any coercive action, other than the federal Environment Minister revoking an approval. This is a last ditch and likely to be used rarely, if ever. Additional penalties should be included and widely publicised.

The department may also wish to consider extending the life of the Reference Group to assist in ongoing governance.

5. MEMBERS' EXPERTISE

The Cumberland Plain Conservation Plan Community Reference Group was established in 2018. It provided independent expert advice on the development of the Plan.

The members of the Reference Group represent key NGO and scientific interests with long standing involvement in the Cumberland Plain.

National Parks Association of NSW - Roger Lembit

The National Parks Association of NSW (NPA) was formed in 1957 to promote the concept of national parks in NSW. Today NPA continues to build on this work through a network of 16 branches and over 10,000 members and supporters. NPA has promoted the extension of the National Parks estate in western Sydney, publishing the Latham report in 1995. NPA has pursued this objective through protection of the ADI site; and in submissions on the Cumberland Plain recovery plan.

Roger is a highly experienced botanist and has undertaken multiple surveys of the Cumberland Plan for government and the private sector.

Landcare NSW - Lisa Harrold

The Mulgoa Valley Landcare Group was established 25 years ago to protect and restore the natural heritage of the Mulgoa Valley. The focus of the Mulgoa Valley Landcare group is to restore the Mulgoa Creek Biodiversity Corridor. With State and Federal investment of over \$500,000 we strive to reduce weed impacts, improve habitat opportunities and native vegetation connectivity. We regularly work with landholders and local community volunteers to improve Biodiversity. Last year we welcomed two Koalas, a healthy male and a healthy female – our first recorded sightings in living memory.

Lisa is President of the group and coordinates funding programs, local volunteers and stakeholders in the restoration of the MulgoaCreek Biodiversity Corridor.

Ecological Society of Australia - Associate Professor E. Charles Morris

The Ecological Society of Australia Ltd (ESA) is the peak group of professional and academic ecologists in Australia, with over 1,200 members from all states and territories. Individual members of ESA have conducted research into the ecosystems of western Sydney, including vegetation description and mapping, species listing (fauna and flora), and ecosystem function (fire regimes, restoration techniques). ESA promotes the scientific study of ecosystems, provides advice to government and other agencies on the application of ecological principles,

and facilitates the public dissemination of ecological knowledge to other disciplines and the public.

Charles is based at Western Sydney University, currently researching restoration of Cumberland Plain woodland.

The National Trust of Australia (NSW) - Graham Quint

Formed in 1945, the NSW National Trust is a non-government, independent charity. Its role is the recognition and conservation, for the present and future generations, of those places and items of historic, scientific, cultural, spiritual scenic and natural value. The National Trust conserves and manages historic properties across NSW, particularly in regional areas of the State. The Trust pioneered Bush Regeneration in Australia from the mid-1970s and has acted to identify and list on its National Trust Register, Cumberland Plain Woodland and colonial homesteads in Western Sydney. A particular focus for the Trust is Global Climate Change and its impacts on the Natural and Built Heritage.

Graham is the Advocacy Manager, and has worked on landscape conservation for many years.

Cumberland Land Conservancy Inc - Wayne Olling

Cumberland Land Conservancy Inc is a community based charity established in December 2014 and is engaged in taking up land of conservation value, putting a conservation covenant on the land title and managing the land for conservation in perpetuity. The principal area of operation of Cumberland Land Conservancy Inc is the Cumberland Plain of Sydney. There are presently four properties in the portfolio of Cumberland Land Conservancy Inc.

Deerubbin Local Aboriginal Land Council - Stephen Wright

The Deerubbin Local Aboriginal Land Council is an Aboriginal Land Council constituted under the Aboriginal Land Rights Act 1983 (NSW). A private, member based corporate body, regulated by the ALRA. It covers a large part of western Sydney and the Blue Mountains, the owner of approximately 16 000 Ha of land in its area - the largest private landowner in the Hills, Penrith and Blue Mountains local government areas. It has a further 12 000 Ha (approximately) under claim pursuant to section 36 of the ALRA. There are approximately 600 current members who are adult Aboriginal people residing in or with an association to its area. The objects and functions of the Council are to improve, protect and foster the best interests of all Aboriginal people within its area. It is concerned the rights and benefits provided to Aboriginal people in Western Sydney by the ALRA are properly and respectfully balanced with biodiversity interests.

Stephen is COO of the Council and a former Manager of Land, Property and Environment at the New South Wales Aboriginal Land Council (1990-1998), former Registrar of the Aboriginal Land Rights Act 1983 (NSW) (1998-2017).

Australian Institute of Landscape Architecture - Noel Corkery/Helen Armstrong

The Australian Institute of Landscape Architects (AILA) is a not-for-profit professional association that represents over 3,500 members throughout Australia and overseas. Governance is vested in the AILA National Board, which retains ultimate legal responsibility for the whole organisation. The AILA champions high quality design for public open spaces, stronger communities and greater environmental stewardship.

AILA plays a strong advocacy role through its members to develop a leading position on issues of concern to the field of landscape architecture. Alongside government and allied professions, it works to improve the design, planning and management of the natural and built environment through a focus on healthy communities; green infrastructure and liveable cities

Noel has been a practising landscape architect for 30 years.

Total Environment Centre - Saul Deane

The Total Environment Centre has worked for over 40 years to preserve the ecosystems that support living landscapes and healthy communities across Australia. It is an incorporated non-profit association and a registered charity. TEC was formed by the save the national park and rainforests movement of the 1970s, and went on to work on over 100 environment protection projects across the urban and natural environment. It works with large and small local NGOs and is an active participant in stakeholder committees. TEC has a reputation for calm, measured policy advice.

Saul is the Urban Sustainability Campaigner for TEC and has lectured in landscape, architecture and communications at UNSW, UTS and Enmore Design College.

Greening Australia - Michael Vyse

Greening Australia began conserving and restoring Australia's unique and diverse landscapes in 1982. Our Nature in Cities Program - aims to bring nature back to our cities and urban fringes by restoring natural ecosystems and urban tree canopy cover for wildlife; improving water quality in our rivers and wetlands; building green corridors to help meet carbon neutral targets and creating open spaces for recreation. As one of the most urbanised and urbanising landscapes in Australia, and with a rapidly decreasing amount of biodiversity and green space, Western Sydney is one of Greening Australia's priority locations in our Nature in Cities Program. It has been working in Western Sydney since our inception and now actively building projects and partnerships. Michael Vyse is Greening Australia's Nature in Cities Science and Planning

Manager and has worked for government and not-for-profit environmental organisations in a variety of Operation and Strategic planning roles for the past 15 years.

Conservation Volunteers Australia – David Jones

Conservation Volunteers Australia has partnered with individuals, businesses and governments in the conservation of our unique environment since 1982. It has welcomed hundreds of thousands of volunteers from around Australia and across the world and supported their participation in a diversity of important projects to protect and enhance our environment.

David is a Regional Coordinator for the CVA.

Western Sydney University – Dr Paul Rymer

Western Sydney University plays a leading role in teaching, research and engagement with a focus on the community in Western Sydney. Dr Rymer is a senior lecturer in the Hawkesbury Institute for the Environment, which is a delivers world leading research and training in ecology and environmental science. Dr Rymer's research has contributed to understanding the ecology and genetics of native plants in the Cumberland Plain for improved conservation management. Among other projects he is investigating psyllids that are defoliating and killing Grey Box eucalypts on the Cumberland Plain in Western Sydney. Dr Rymer also conducted expert surveys on *Dillwynia tenuifolia* for the CPCP. His contribution to the CPCP community reference group provided information on the science of habitat connectivity and ecological restoration.

Chairperson - Jeff Angel

Jeff is Executive Director of the Total Environment Centre. As well as managing a number of urban and natural environment protection programs over the last 40 years, he has been a member of several government boards and advisory committees. He was Co-Chair of the Greater Sydney Commission's Environment Advisory Panel.