

Submission to Cumberland Plain Conservation Plan

08 October 2020

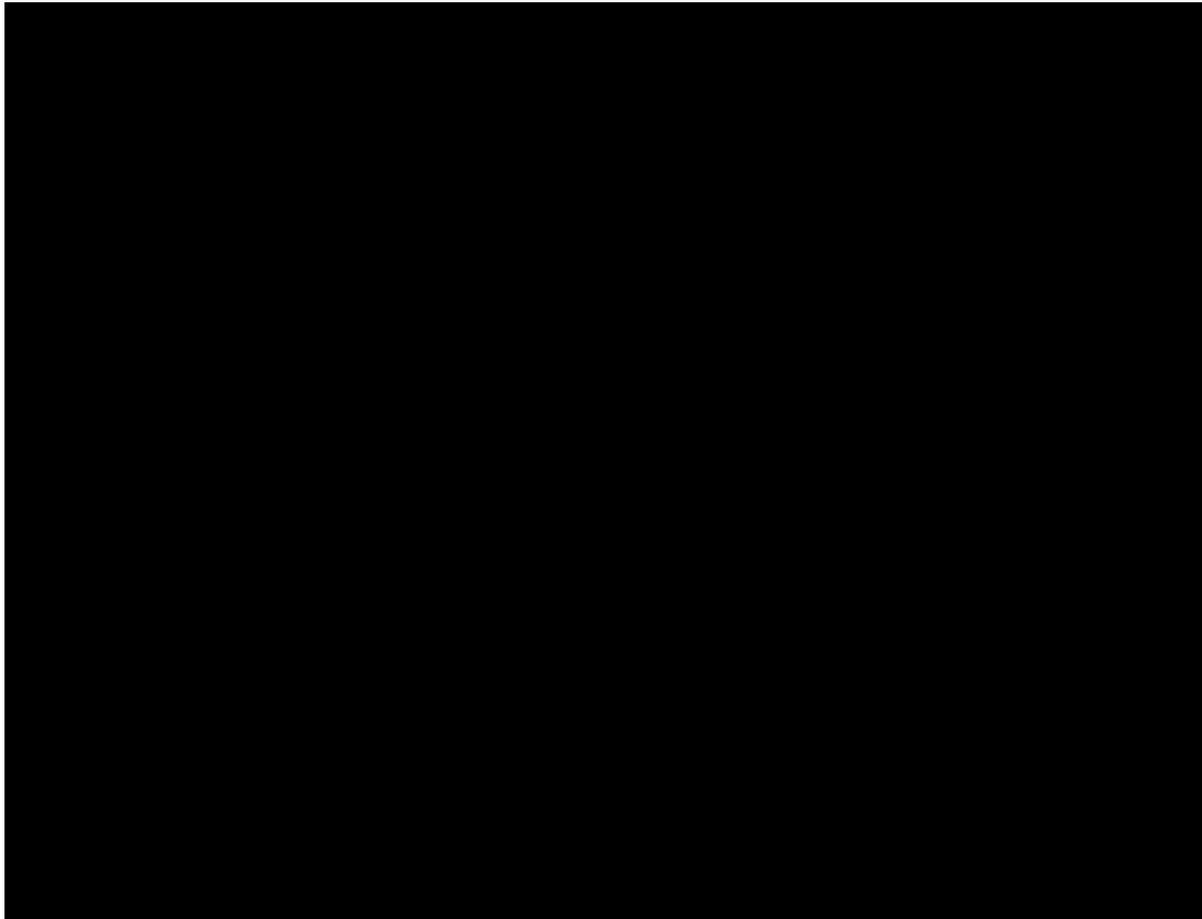
NSW Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Re: Submission in objection to the Cumberland Plain Conservation Plan, with regards to the extent of E2 zoning and flood study used to inform the area of flood affected land.

This submission is tendered on behalf of the land owner of [REDACTED] Kemps Creek (Lot [REDACTED])

The reason for this submission is to object to the flood study and which was used to inform the extent of flooding along Kemps Creek and South Creek.

Additionally, the E2, Environmental conservation zone which is proposed is unsuitable particularly in areas which have almost no significant vegetation. A report from an ecologist accompanies this letter.



The properties are identified in the aerial image above.

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Objection to flood study

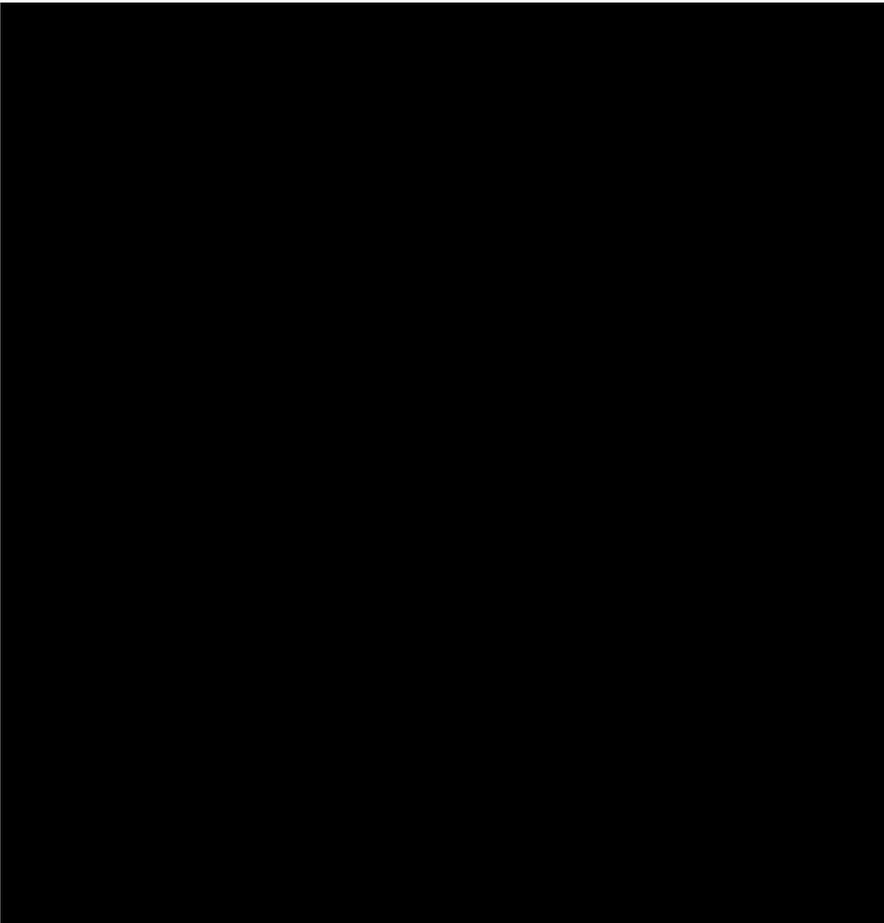
There are currently two dams, shown in the 2015 flood study prepared by Worley Parsons, that are relied upon for the Aerotropolis SEPP. These are the dams on Kemps Creek and South Creek.

Kemps Creek Dam is positioned across lots ■ and ■. Both of these land owners are planning to remove this dam. The removal of the dam will reduce the flood impact on the properties in this area, allowing more of the land to be zoned for industrial purposes.

Removal of the dam will also reduce the danger which would occur in the event of a dam wall failure during a flooding event. This would in turn remove the present spillway on Kemps Creek dam allowing more of the land west and south of the dam to be zoned industrial.

South Creek dam does not currently hold water as the wall has been opened. Most of the dam wall still exists and, in the flood study, shows that it does have an effect on the flow of the flood waters.

If this wall was to be completely removed, it would also reduce the impact of the flooding on the up-stream properties, allowing more of the land to be utilised for industrial purposes.



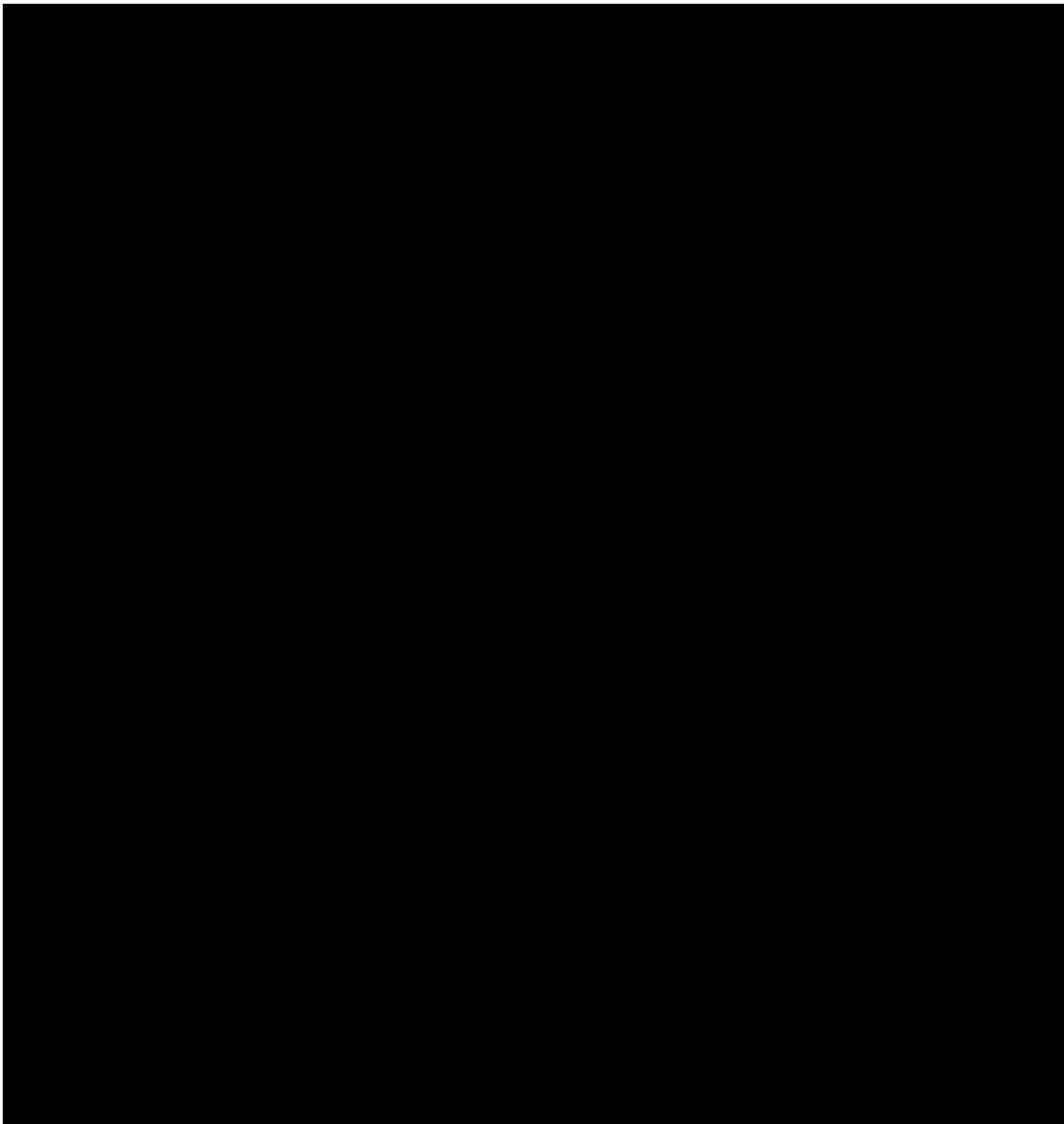
Extract from Worley Parson 2015 Flood Study showing the dams on both South and Kemps Creek.

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Objection to E2 and Recreation and Environment Zoning

The extent of the E2 and Recreation and Environment Zoning appears to be informed by the extent of the flood study. Whilst a riparian corridor along the water course is suitable once the area has been developed, currently the land is mainly being used for agricultural purposes with almost no significant vegetation. Added to this is the fact that the water courses of both Kemps Creek and South Creek have been significantly modified from their natural state with Kemps Creek still being dammed and South Creek's dam wall still in place.

A more appropriate strategy would be one that is consistent with the Natural Resource Access Regulator (NRAR). This suggests that for water sources of a 4th order or greater a total riparian corridor of 80 metres + Channel width is the preferable management option. This was proposed in the exhibition paper for the [REDACTED] Precinct Rezoning and is shown in the extract below.



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A report from Ecological Australia accompanies this submission. It identifies that large areas which are proposed to be conservation areas are of low biodiversity value.

Considering the unnatural state of the water course, it is essential that a proper creek bed/channel is established during the development of this area along with the removal of dams which are currently present on the main water courses. During this process flood mitigation measures such as flood compensatory excavation should be considered. This will allow more of the area to be utilised for industrial purposes, which will generate future opportunities for employment. This is consistent with the original intent of the Western Sydney Employment Area SEPP 2009 and the strategic direction of the Penrith Council LEP.

The Covid-19 induced recession affecting Australia is a once in a century event. It is vital that the opportunities which present themselves to stimulate economic growth are used to their full advantage. So far, there has been tremendous interest and take up in the areas which have been zoned industrial. This is due to the shortage of existing industrial land in Sydney. This shortage has been stifling growth in this sector for the last decade.

Interest in manufacturing in Australia is gaining momentum, with the Federal Government providing stimulus and encouragement. This direction will support Australia through these difficult times and provide stability in the coming years. It is important that we have the greatest amount of available land zoned industrial to support this recovery.

Badgerys Creek Airport has been planned since the early 1970s. It is important that the land surrounding the area is developed to its highest and best use to support this essential infrastructure in Western Sydney.

As land owners in the area we should be involved in the plan making. Through consultation and partnership with us, the Department will be able to achieve the best outcome for the local residents, environment and the future of Western Sydney.

Regards,

[Redacted signature]

Please contact Nicholas Nasser in relation to this submission.

[Redacted contact information]

[Redacted contact information]

8 October 2020

Our Reference: 20SYD - 17365

Tier Architects

Email: [REDACTED]

Attention: Nicholas Nasser

Dear Nicholas,

[REDACTED] Kemps Creek, Review of Draft Cumberland Plain Conservation Plan

Eco Logical Australia (ELA) was engaged to undertake the following tasks to assist your consideration of the draft Cumberland Plain Conservation Plan (CPCP):

- literature review to understand what the site has been mapped as in the draft CPCP
- site visit to validate vegetation communities
- provide recommendations for changes if field survey confirms the draft CPCP is based on incorrect information.

The following sections provide detailed responses on the above. In summary the vegetation on site was similar to that mapped in the draft CPCP. The assessment report for the draft CPCP used terms such as 'intact, thinned, isolated paddock trees and derived native grassland' to describe the vegetation condition. Much of the vegetation on site did not easily fit into these categories as the growth forms were quite unusual compared to typical vegetation communities in western Sydney – presumably due to the historical clearing and grazing regime of the study area. In general, occurrences of Swamp Oak Flood Plain Forest were in low condition.

ELA understands that the client is seeking to determine if any parts of the site have lower biodiversity values that may justify an alternative land use. Most of the study area is dominated by market gardens or exotic grasses which are considered of low biodiversity value and there may be a reasonable case for seeking an alternative land use. Narrow fringes of native vegetation in the study area along Kemps Creek and South Creek's existing riparian corridors were identified as an Endangered Ecological Community or habitat for threatened species and therefore meet the criteria that the draft CPCP used for identifying areas to be 'avoided' (i.e. conserved).

The proponent may have grounds for seeking an amendment to the land categorised as non-certified for biodiversity values due to the limited biodiversity value and recovery potential.

Please do not hesitate to contact me to discuss the contents of this letter.

Regards,



Rebecca Ben-haim
Environmental Consultant



1. Methods

1.1 Literature and Database Review

A desktop review of the following sources was conducted:

- Flora and fauna database searches, BioNet (Atlas of NSW Wildlife) database search (5 km) for threatened species, populations and migratory species listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and Protected Matters Search Tool for species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- Fisheries Spatial Portal and threatened species distribution maps (Riches et al, 2016)
- Aerial mapping and vegetation mapping, to assess the extent of vegetation including mapped threatened ecological communities (TECs) listed under the BC or EPBC Act
- Desktop assessment utilising aerial photographs, topographical maps and GIS data systems
- Draft CPCP, including biodiversity overlays.

1.2 Field Survey

ELA ecologists Claire Wheeler and Carolina Mora undertook a rapid field survey on 6 October 2020. The field survey undertook the following tasks:

- Validating the extent and quality of vegetation and existing vegetation mapping
- Identifying the presence of threatened species/populations or whether potential habitat for these species/populations is present
- Any other potential ecological values such as regionally or locally significant flora and fauna, including aquatic and riparian values.

2. Results

2.1 Vegetation Communities

Most of the vegetation within the study area consisted of exotic pasture grasses impacted by long term grazing (Figure 1). Dominant species include *Nassella neesiana* (Chilean Needlegrass), *Lolium perenne* (Perennial Ryegrass) and *Eragrostis curvula* (African Lovegrass). Other dominant weed species include *Senecio madagascariensis* (Fireweed), *Cirsium vulgare* (Spear Thistle) and *Solanum linnaeanum* (Apple of Sodom). These areas of vegetation did not conform to any native vegetation communities.

Native vegetation was limited to small, scattered occurrences of Swamp Oak Floodplain Forest (Figure 2, Figure 3). Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions is listed as an Endangered Ecological Community under the NSW BC Act and Commonwealth EPBC Act. Occurrences of Swamp Oak Floodplain Forest within the study area were characterised by limited areas where *Casuarina glauca* (Swamp Oak) and *Bursaria spinosa* (Blackthorn) were regenerating along the large dam, which forms part of Kemps Creek, and on the small island within the dam. Some regeneration of *Casuarina glauca* (Swamp Oak) and *Acacia parramattensis* (Parramatta Wattle) was also present along the banks of South Creek. Ground cover in these areas was dominated by exotic species, however creek edges and a wet soak near south creek also included native species *Carex appressa* (Tall Sedge), *Typha orientalis* (Cumbungi) and *Ludwigia peploides* (Water Primrose).

Table 1: Vegetation communities identified within the study area

Vegetation Community	Plant Community Type Code and Name	BC Act Status	EPBC Act Status	Area (ha)	SAII Candidate (Y/N)	Percent Cleared of original extent
Swamp Oak Floodplain Forest	PCT 1234: Swamp Oak swamp forest fringing estuaries, Sydney Basin Bioregion and South East Corner Bioregion (Estuarine Swamp Oak Forest)	E	E	0.88	No	90%

E = Endangered

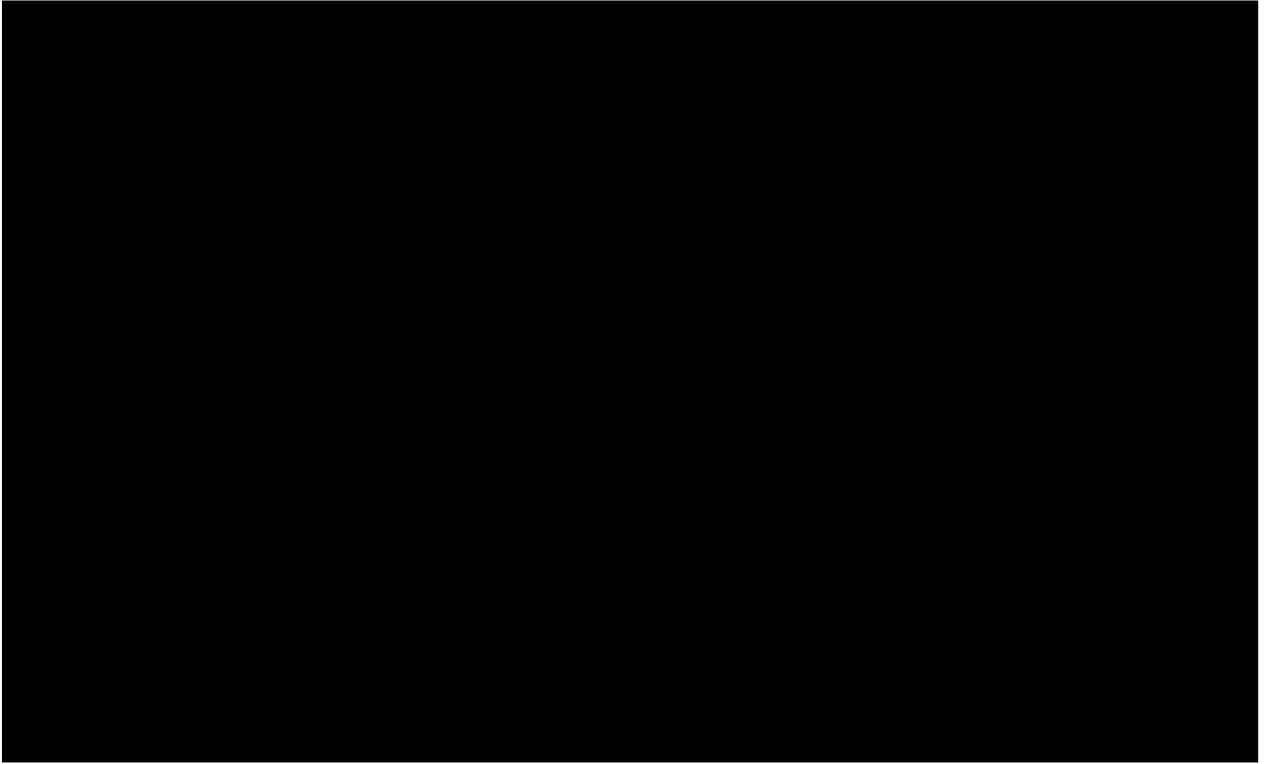


Figure 1: Exotic pasture grasses present within the study area



Figure 2: Swamp Oak Floodplain Forest along Kemps Creek (left) and South Creek (right)

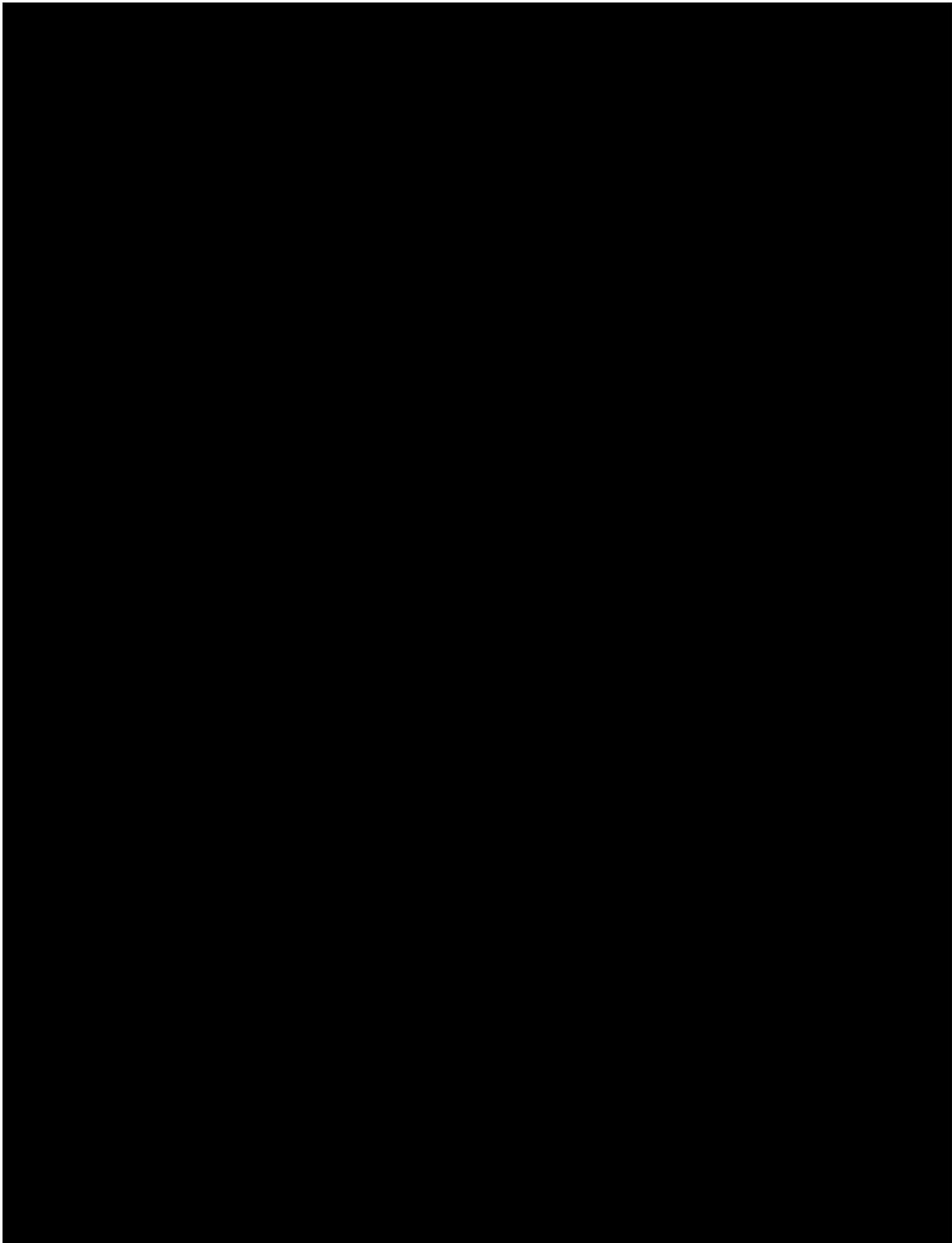


Figure 3: Vegetation Communities within the study area (ELA 2020)

2.2 Threatened Species and Habitat

No threatened flora species or habitat features suitable for threatened flora species were identified within the study area during survey.

No threatened fauna species were identified within the study area during survey. A list of threatened fauna species with the potential to occur within the study area was compiled based on habitat features identified within the subject site during field survey and BioNet (Atlas of NSW Wildlife) database records for threatened species within 5 km of the study area. These species, and the habitat features relevant to them, are presented in Table 2.

No threatened species have previously been recorded within the study area (Figure 4).

Table 2: Threatened fauna species with the potential to occur in the subject site

Scientific name	Common name	BC Act Status	EPBC Act Status	Habitat features present within subject site	BioNet records
<i>Apus pacificus</i>	Fork-tailed Swift	-	M	Open farmland	2
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	-	M	Dam and South Creek	1
<i>Gallinago hardwickii</i>	Latham's Snipe	-	M	Dam and South Creek	22
<i>Myotis macropus</i>	Southern Myotis	V	-	Dam and South Creek	16
<i>Rostratula australis</i>	Australian Painted Snipe	E	E	Dam and South Creek	1
<i>Stictonetta naevosa</i>	Freckled Duck	V	-	Dam and South Creek	1
<i>Tringa nebularia</i>	Common Greenshank	-	M	Dam and South Creek	1

V = Vulnerable, E = Endangered, M = Migratory, - = Not Listed.

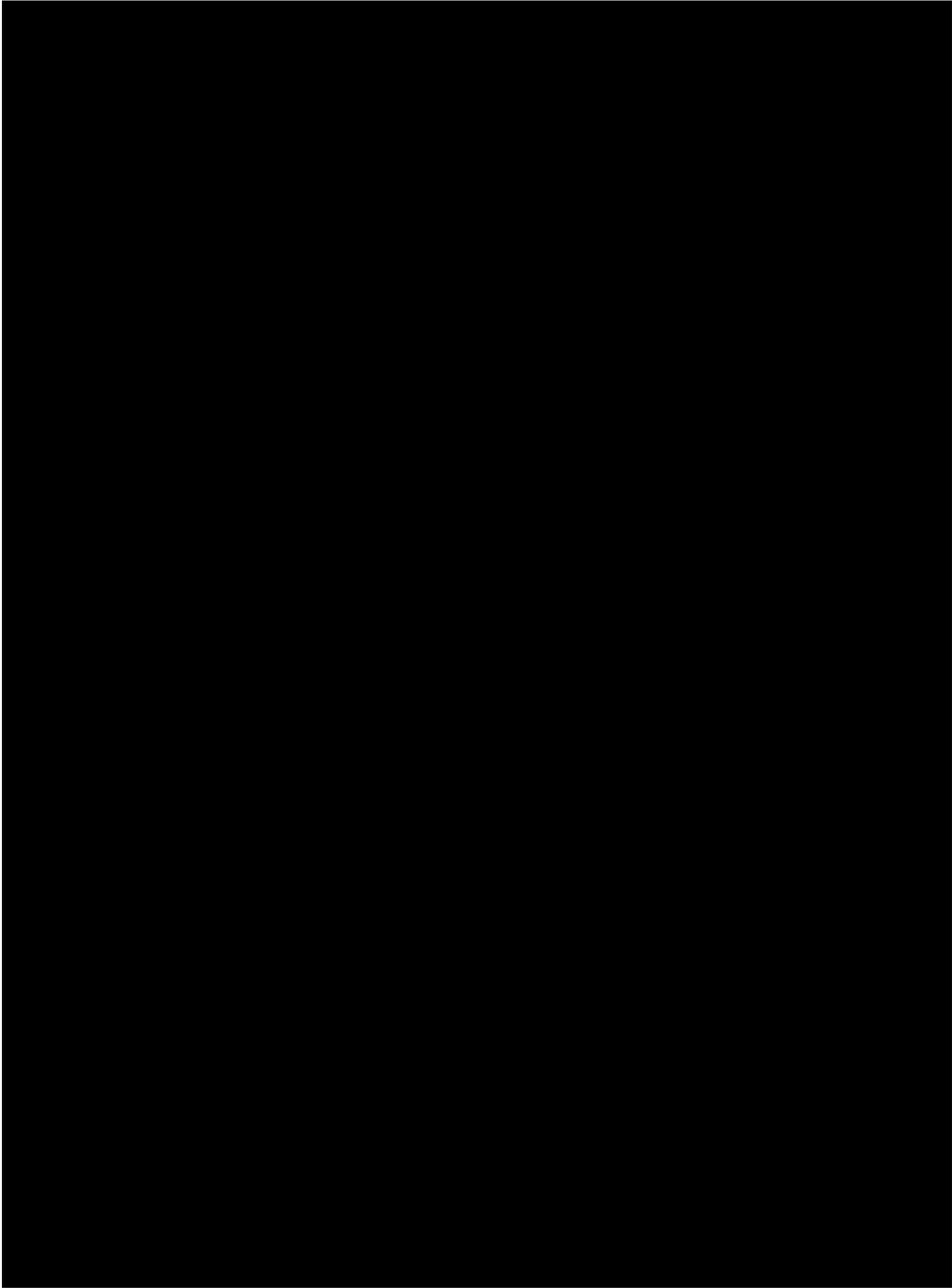


Figure 4: BioNet Atlas records within 5 km of the study area

2.3 Watercourses and Riparian Habitat

There are two mapped watercourses within the study area: Kemps Creek, a 4th order watercourse and South Creek, a 6th order watercourse, within the Hawkesbury Nepean Catchment (Figure 11). Both of these watercourses are mapped as Key Fish Habitat (KFH) by NSW Fisheries and would be considered as 'rivers' under the *Water Management Act 2000* (WM Act) as they had defined channel beds and banks.

A review of the Fisheries Spatial Portal found that DPI Fisheries have assigned a Freshwater Fish Community Status of 'fair' to both South Creek and Kemps Creek. This status was developed to spatially represent the status of fish communities across NSW to provide support for strategic planning.

Threatened species searches identified four aquatic species listed under the *Fisheries Management Act 1994* (FM Act) and EPBC Act with potential to be found within the study area: *Archaeophya adamsi* (Adams Emerald Dragonfly), *Maccullochella peelii* (Murray Cod), *Macquaria australasica* (Macquarie Perch) and *Prototroctes maraena* (Australian Grayling). As there are no records of these species within the South Creek catchment and a lack of suitable habitat on site, it is unlikely these species would be found within the site.

The location of the mapped Kemps Creek tributary within the study area was in the middle of a large dam (Figure 5) that extended to the north and south beyond the study area. The water in the dam was very turbid and many large *Cyprinus carpio* (Carp) were observed. This species is a pest species which destroys bottom-feeding habitats. Emergent macrophytes were observed on the edges of the dam, including *Typha orientalis* (Cumbungi), *Ludwigia peploides* (Water Primrose) and *Persicaria* sp. A few tree species were growing around the edges of the dam including *Casuarina glauca*, *Bursaria spinosa* and *Salix fragilis* (Crack Willow). There were a number of islands within the dam that were unable to be accessed, however the vegetation on this island appeared to be providing good habitat for water/wetland birds including *Cygnus atratus* (Black Swan) and *Porpyrio porphyrio* (Purple Swamphen).

Downstream of the large dam, Kemps Creek was a defined channel (Figure 6), with a constant flow as the result of a pipe installed by WaterNSW, bringing water from the upstream dam to alleviate salinity within the creekline.

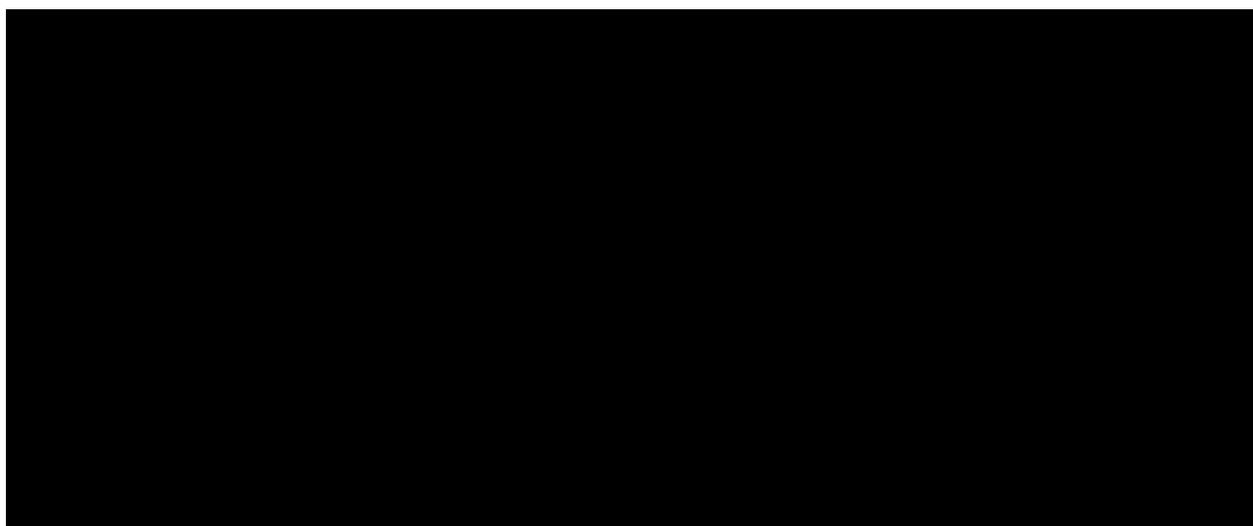


Figure 5: Location of mapped Kemps Creek within the study area, looking south

Figure 6: Kemps Creek downstream of the study area, looking north.

Near the western extent of the property, South Creek passed through the site, flowing north west. Within the site, South Creek was slow flowing, approximately 10 m wide with turbid flow. A small number of macrophyte species were growing on the edge of the channel, including *Typha orientalis*, *Ludwigia peploides*, *Azolla pinnata* (Ferny Azolla) and *Lemna disperma*. The creek banks sloped away relatively gradually from the channel; however, erosion of the right bank was observed downstream. Vegetation within the riparian zone was limited to exotic pasture grasses and occasional tree species (Figure 7 and Figure 8)

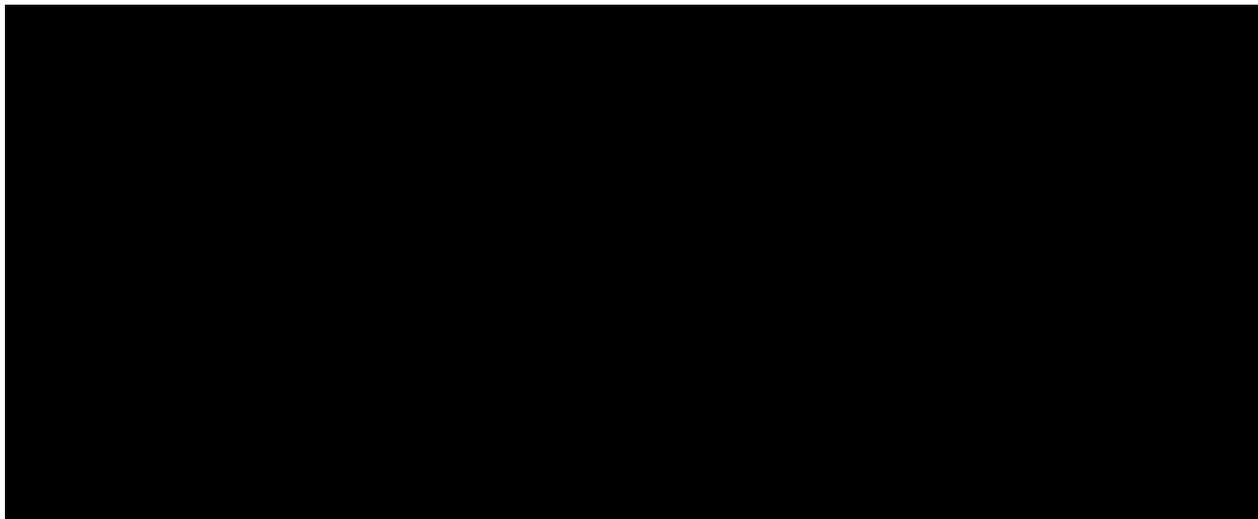


Figure 7: South Creek near the western end of the study area, looking south

Figure 8: South Creek near the western extent of the study area, looking north

Within the western part of the site, there were a few small wet soak areas where standing water was observed and aquatic macrophytes growing (Figure 9 and Figure 10). These were not connected to any of the mapped waterways within the site and the landowner explained that these areas were once part of a large farm dam. Flora species observed within these areas included *Juncus usitatus*, *Ludwigia peploides* and *Cycnogeton procerum* (Water Ribbons).

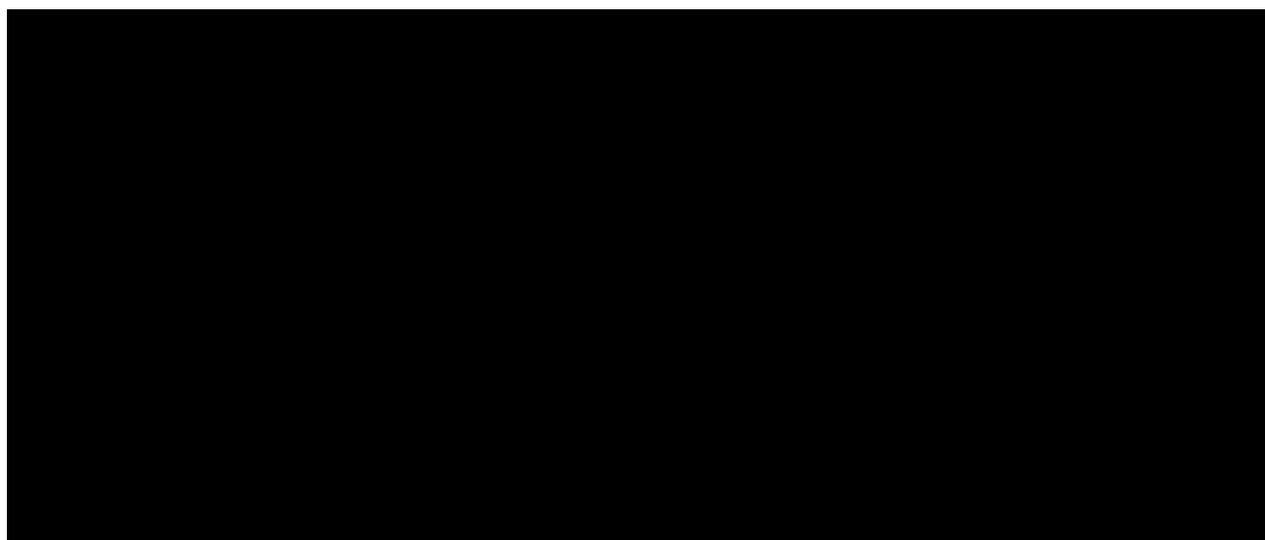


Figure 9: Wet depression in western part of site, looking west

Figure 10: Wet depression near southern corner of site, looking south

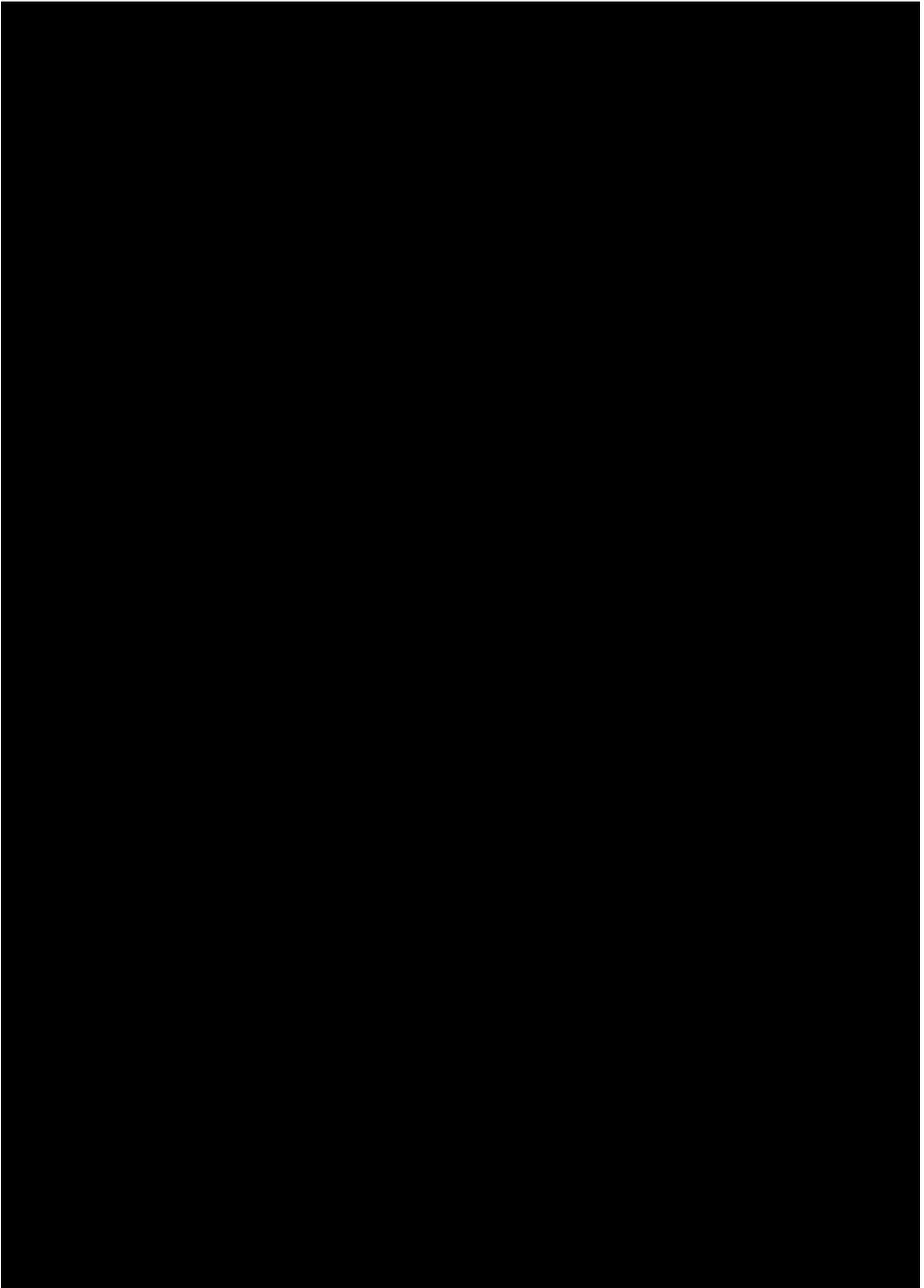


Figure 11: Associated riparian corridors with mapped watercourses within the study area

2.4 Draft Cumberland Plain Conservation Plan

The draft CPCP was released for public comment between 26 August and the 9 October 2020. The plan intends to provide certainty regarding biodiversity impacts and conservation outcomes within the study area.

2.4.1 Vegetation Communities

The draft CPCP maps the site as containing Swamp Oak Floodplain Forest around the fringes of the existing dam associated with Kemps Creek (Figure 12), which is listed as an Endangered Ecological Community under both the NSW BC Act and Commonwealth EPBC Act. This vegetation is also mapped as 'Native Vegetation' under the draft CPCP.

2.4.2 Land Category

The department used avoidance criteria to identify areas of high biodiversity value to avoid development and to designate urban capable land to be biodiversity certified in each nominated area. The study area contains the following land categories (Figure 13):

- Certified lands designated for urban development.
- Excluded areas either as it is protected land, Commonwealth land or land already developed.
- Non-certified lands due to existing high biodiversity values.
- Non-certified lands due to riparian and watercourse values.

The implication of the draft CPCP is that the non-certified lands would not be available for development.

2.4.3 Intended Effect

The non-certified lands are also intended to be zoned Environmental Conservation (Figure 14).

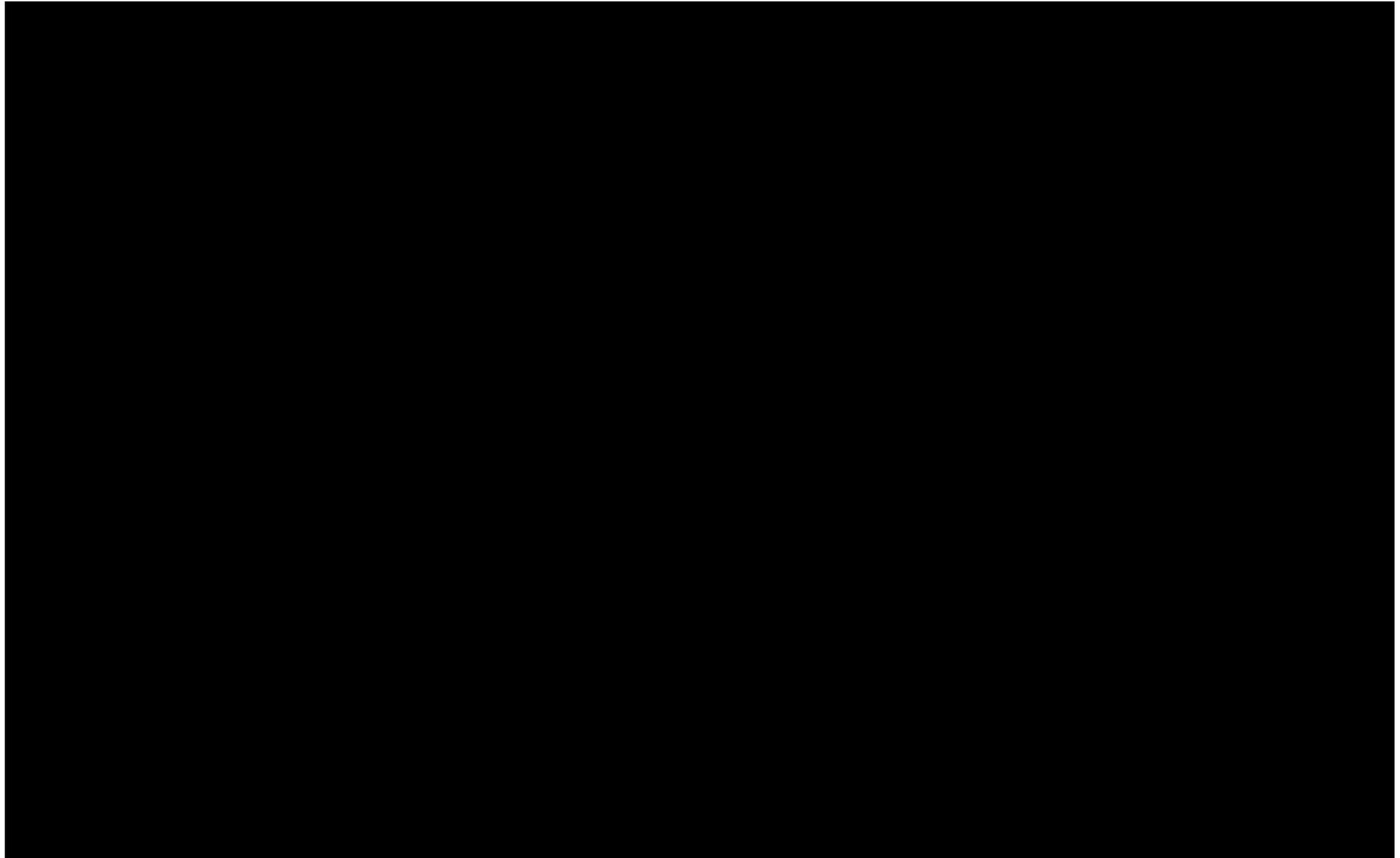


Figure 12 Vegetation Mapping from the CPCP Interactive Map accessed 6 October 2020 showing fringing Swamp Oak Floodplain Forest (purple)

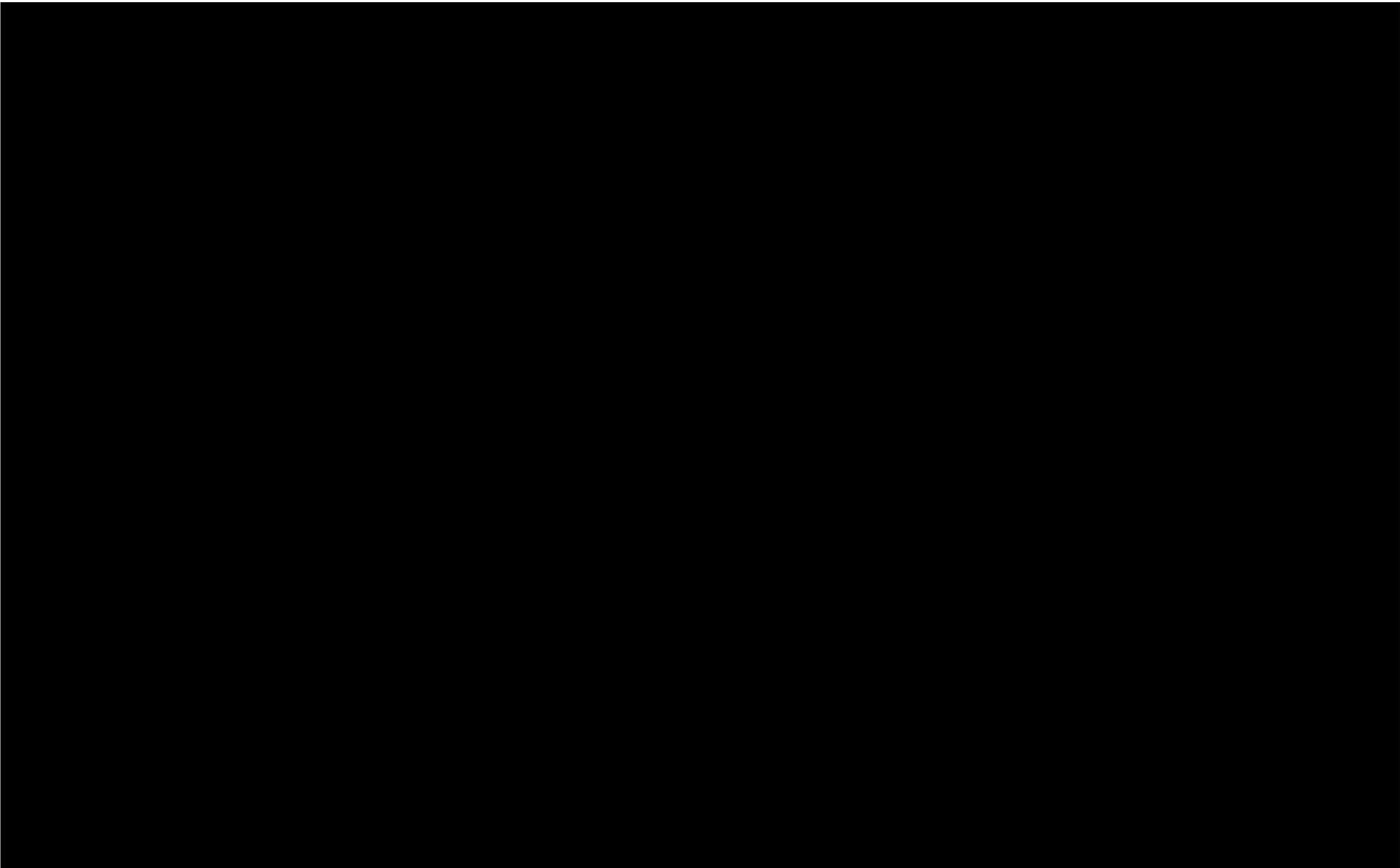


Figure 13 Land Category from CPCS interactive map accessed 6 October 2020 showing certified lands (red), excluded areas (yellow), non-certified lands – avoided for other (blue) and non-certified lands – avoided for biodiversity (green)



Figure 14 Existing Conservation Areas (solid orange) and Proposed Conservation Areas (orange hatching) from the CPCP interactive map accessed 6 October 2020

3. Analysis Against Draft Cumberland Plain Conservation Plan

Appendix B of the draft CPCP details the ‘avoidance criteria’ of the plan, which are essentially the criteria for what was considered to have sufficient conservation value to warrant its ‘avoidance’ or protection. Table 3 below compares these criteria to what ELA found on site.

Appendix B of the draft CPCP also describes what flexibility there is for changing the maps in the draft CPCP.

Table 3: Assessment against draft CPCP Avoidance Criteria

Box 1 Avoidance criteria	ELA assessment
(a) TECs and PCTs	
1. Critically endangered ecological communities (CEECs) or PCTs ≥90% cleared in large patches and in good condition; or serious and irreversible impact (SAIL) entities (TECs)	<p>Occurrences of Swamp Oak Floodplain Forest did not meet the criteria for the following reasons:</p> <ul style="list-style-type: none"> • The ecological community is listed as an Endangered Ecological Community, not a Critically Endangered Ecological Community. • 90% of PCT 1234 has been cleared, however the occurrences of this PCT within the study area are not large (scattered degraded patched equating to a total of 0.88 ha) or in good condition (lack of native groundcover and limited mid-storey and canopy diversity and cover). • Swamp Oak Floodplain Forest is not a SAIL candidate entity.
2. EECs or PCTs ≥70% to <90% cleared in large patches and in good condition	90% of PCT 1234 has been cleared, however the occurrences of this PCT within the study area are not large (0.88 ha total) or in good condition.
3. PCTs ≥50% to <70% cleared in large patches and in good condition	N/A
4. PCTs <50% cleared in large patches and in good condition	N/A
(b) Threatened species	
1. Known habitat [^] for critically endangered species, SAIL entities (species), Saving Our Species (SOS) species polygons (where species-specific habitat is present), or large populations of threatened species (relative to typical size for that species); or known primary koala habitat	<p>ELA did not undertake threatened species survey, however there are no BioNet records for threatened species within the study area.</p> <p>No threatened flora species or habitat features suitable for threatened flora species were identified within the study area during survey. No threatened fauna species were identified within the study area during survey and no Critically Endangered species are thought to potentially occur (Table 2).</p> <p>The study area lacks Eucalypt species and is therefore unlikely to contain any koala habitat.</p>
2. Known habitat [^] for endangered species or known secondary koala habitat	ELA did not undertake threatened species survey, however there are no BioNet records for threatened species within the study area.

Box 1 Avoidance criteria	ELA assessment
	<p>No threatened flora species or habitat features suitable for threatened flora species were identified within the study area during survey. No threatened fauna species were identified within the study area during survey. Some Endangered species may have the potential to occur due to existing habitat features such as Kemps Creek and South Creek (Table 2).</p> <p>The study area lacks Eucalypt species and is therefore unlikely to contain any koala habitat.</p>
<p>3. Known habitat[^] for vulnerable species</p>	<p>ELA did not undertake threatened species survey, however there are no BioNet records for threatened species within the study area.</p> <p>No threatened flora species or habitat features suitable for threatened flora species were identified within the study area during survey. No threatened fauna species were identified within the study area during survey. Some Vulnerable species may have the potential to occur due to existing habitat features such as Kemps Creek and South Creek (Table 2).</p> <p>The study area lacks Eucalypt species and is therefore unlikely to contain any koala habitat.</p>
(c) Ecological processes	
<p>1. Land identified as priority conservation lands, BIO Map core areas, or important local habitat corridors for key species including koalas</p>	<p>The following databases were reviewed:</p> <ul style="list-style-type: none"> • The Biodiversity Investment Opportunities Map, including core areas and regional biodiversity corridors (OEH, 2015); and • Cumberland Plain Priority Conservation Lands DPIE, 2019). <p>The study area is not identified as priority conservation land or a biodiversity investment opportunities core area, however, is mapped as a regional biodiversity corridor (Figure 15) on the BioMap. Both Kemps Creek and South Creek would be utilised as a local habitat corridor for many native species.</p> <p>The study area lacks Eucalypt species and is therefore not considered koala habitat.</p>
<p>2. Land identified as BIO Map regional corridors or as areas that provide significant opportunities to support important local habitat corridors for key species, including koalas</p>	<p>As above.</p>
<p>3. Areas identified on the Biodiversity Values Map</p>	<p>Both Kemps Creek and South Creek, and the associated riparian buffers within the study area are identified on the Biodiversity Values Map, when accessed 7 October 2020 (Figure 16).</p>
Boundary rationalisation	
<p>Consider removing:</p>	
<p>Small nodes or isolated patches of features identified in (a), (b) or (c) if future land use change will lead to significant edge effects</p>	<p>Land within the study area, east of Kemps Creek is categorised as certified urban capable land and will likely be developed in the future. So, too is land to the</p>

Box 1 Avoidance criteria**ELA assessment**

and low viability over the timeframe identified, and there is no feasible opportunity to enhance connectivity and extent.

south of the study area, which is categorised as both non-certified Western Sydney Aerotropolis and certified urban capable land. Lands categorised as non-certified for biodiversity values within the study area and directly north may improve habitat connectivity however, within the study area, lack native vegetation and consist of exotic pasture and therefore, have low recovery potential. Both Kemps Creek and South Creek and associated riparian corridors contain biodiversity value and should be protected.

Corridors that do not link important areas of habitat, including 'blind corridors'.

Dependent on whether the areas categorised as non-certified for biodiversity values within the study area and directly north are revegetated, this may continue to stay a blind corridor. Both Kemps Creek and South Creek and associated riparian corridors will remain as important habitat corridors.

^ As indicated by BioNet records or recent survey data.

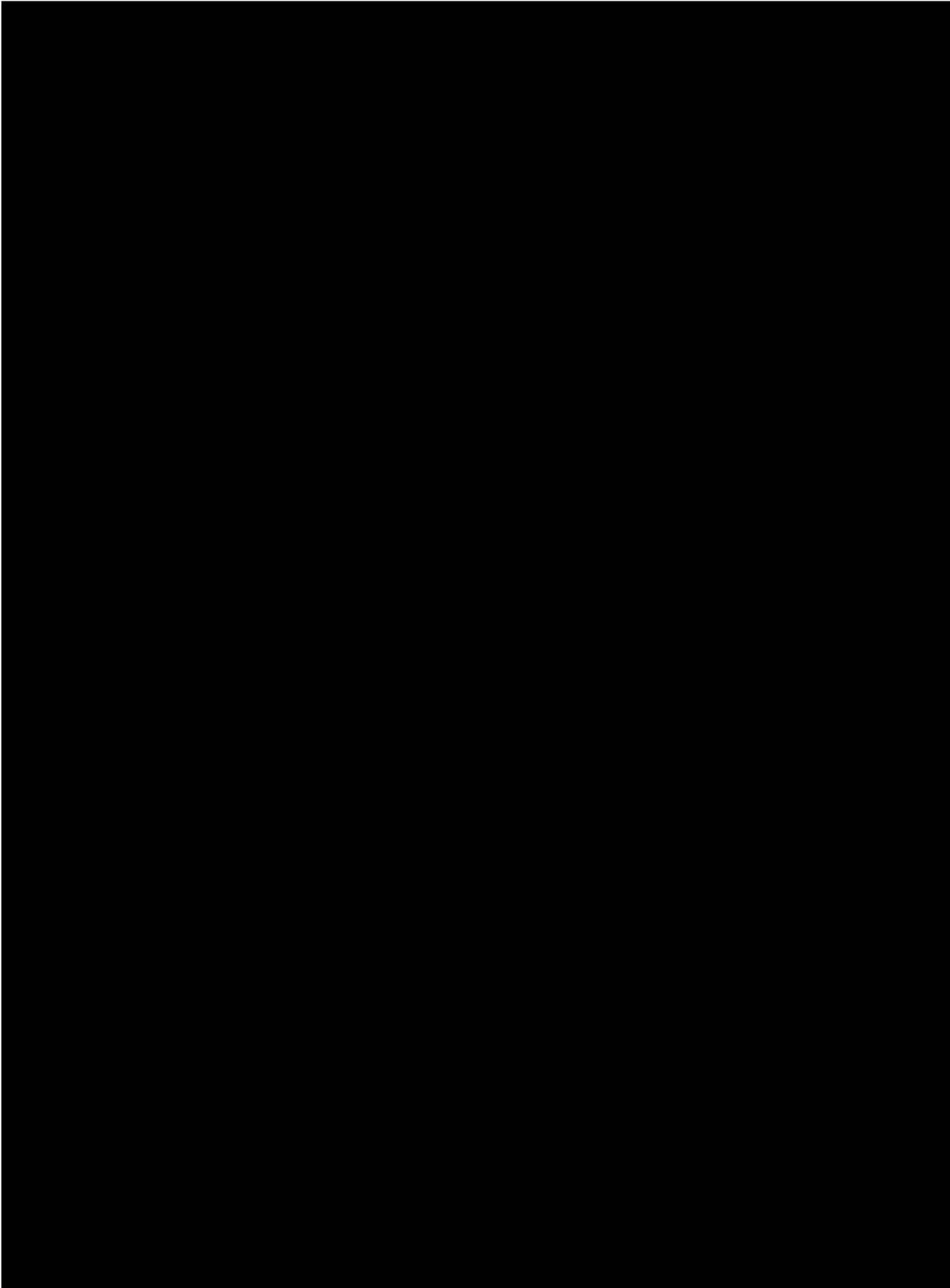


Figure 15: Biodiversity Investments Opportunity Map within the study area

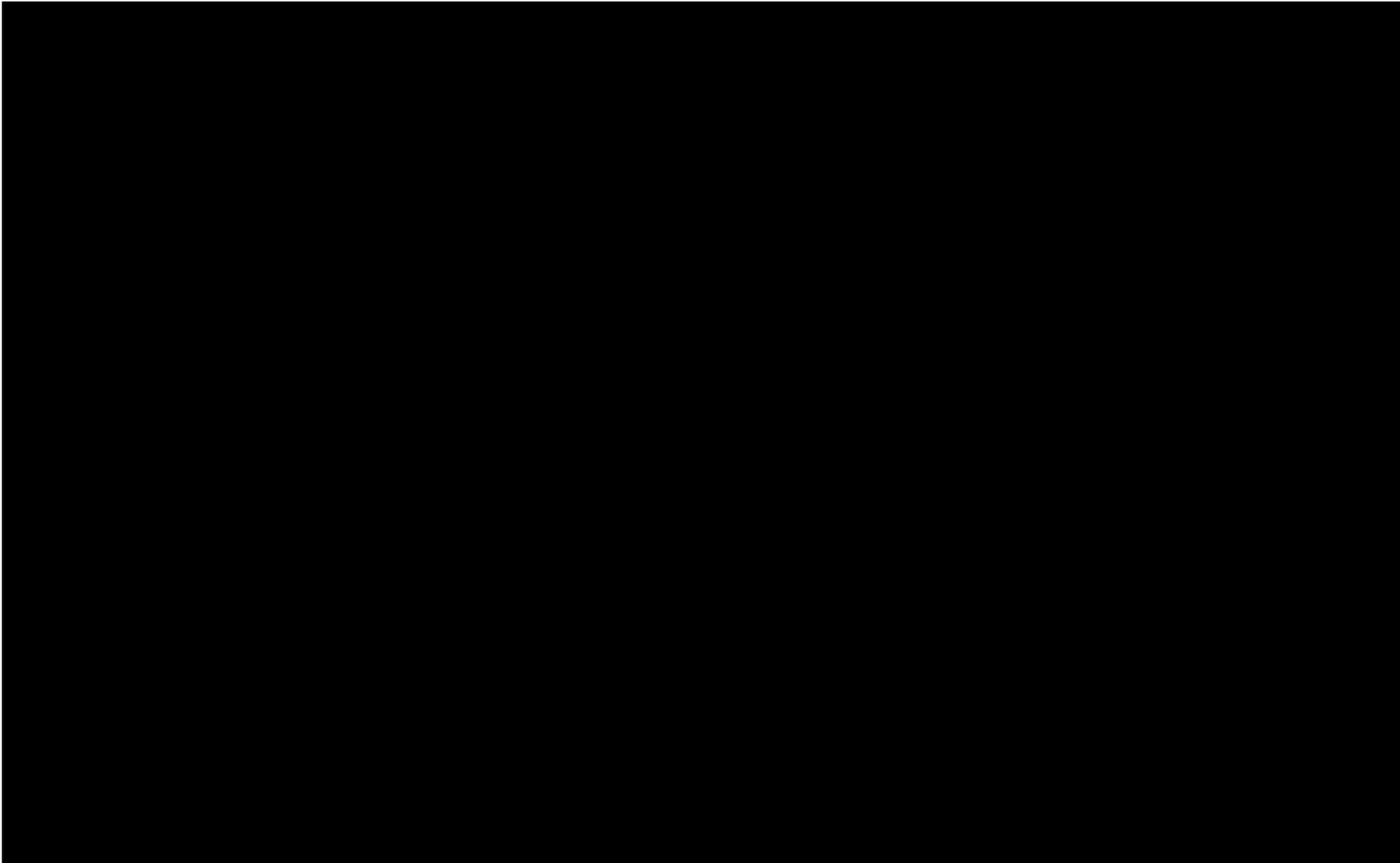


Figure 16: Land mapped on the Biodiversity Values Map within the study area (accessed 7 October 2020)

During public exhibition, landholders may seek to have the urban capable boundary amended prior to the finalisation of the draft CPCP. The urban capable land boundary will only be updated if the criteria in Table 4 can be proven.

Table 4: Criteria required to amend urban capable boundary

Draft CPCP Criteria	ELA recommendation
Creeks and water features are mapped incorrectly, in which case they must be updated to match the topography and vegetation indicating movement of water through the landscape	The draft CPCP mapped both Kemps Creek and South Creek as watercourses and riparian buffers. Based on field validation, the mapping does not appear to be incorrect.
On-site data collected by accredited assessors supports updating the boundaries	Field survey validated the native vegetation on site, which is limited to fringing vegetation around Kemps Creek and South Creek. The area currently categorised as non-certified for biodiversity values contains exotic pasture grasses, with limited recovery potential.
There is no net change to impact of threatened ecological communities, SAI entities or vegetation in an intact condition state	If the land categorised as non-certified for riparian values remains the same, all of the fringing Swamp Oak Floodplain Forest around Kemps Creek and South Creek will still remain protected resulting in no net change to impacts.
There is no impact on an identified landscape corridor	This term is not described or mapped in the draft CPCP.
Authorised clearing has occurred. (The relevant Council will review cleared areas and determine if the clearing was permitted. The urban capable land boundary will not be changed if the clearing was unauthorised.)	ELA is not aware of any recent clearing on the property.

4. Conclusion

In summary the vegetation on site was similar to that mapped in the draft CPCP. However, the majority of the area proposed for ‘Non-certified – Avoided for Biodiversity’ does not currently contain significant biodiversity values. This area generally had a large on-line farm dam and exotic grasses. If retention of existing biodiversity values was the intention of the draft CPCP, a reasonable case for refining the draft CPCP map in this location could be made.

The ‘Non-certified – Avoided for Biodiversity’ area boundary however seems to more closely reflect the BioMap regional corridor. Achieving biodiversity outcomes across this area would be expensive as recreating terrestrial habitat from exotic grasslands is very labour and material intensive. Removing the farm dam and creating a narrower but more natural channel (potentially with associated wetlands) with rehabilitated native vegetation riparian species, consistent with Swamp Oak Floodplain Forest, may provide a more cost-effective way to achieve the intended biodiversity corridor.