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15 May 2015

Dear Michael,

Ecological constraints analysis for proposed rezoning at 510 Beach Road, Berry NSW

Introduction

Eco Logical Australia (ELA) was commissioned to undertake an ecological constraints analysis of the northern portion of 510 Beach Road, Berry NSW (known as Lot 4 in Deposited Plan (DP) 834 245). This northern portion of the lot (herein, the 'site boundary' as shown on **Figure 1**) comprises an area of approximately 54.3 ha. Within the 'site boundary' an area delineated as the 'impact area' on **Figure 1** is proposed to be rezoned from RU1 (Primary Production) to R5 (Large lot residential) under the *Shoalhaven Local Environmental Plan 2014* (SLEP 2014).

Coomonderry Swamp (also located on Lot 4 DP 834 245) is located to the south west of the site boundary and is not the subject of this report, except to broadly discuss mapped vegetation communities. ELA understand that the swamp is currently zoned E2 Environmental Conservation under the SLEP 2014 and that the land owner has undertaken early consultation with the NSW Office of Environmental and Heritage (OEH) for the dedication of the current E2 zone to OEH. A buffer to the swamp is proposed and is shown between the site boundary and 'impact area' on **Figure 1**. This proposed buffer is to mitigate indirect impacts to the swamp and has a variable width of greater than 100 m.

This ecological constraints analysis aims to identify biodiversity and riparian constraints within the site boundary. The scope of this letter does not include a detailed flora and fauna impact assessment or top of bank mapping for accurate riparian constraints.

Methods

Ecological

A desktop review of relevant ecological data was undertaken, including vegetation mapping (Keith 2004, Tozer *et al* 2010) and threatened species records from the Atlas of NSW Wildlife (OEH 2015) and Commonwealth Protected Matters Search Tool (DoE 2015).

A site inspection was undertaken by Elizabeth Norris (Senior Ecologist / Botanist, ELA) on 5 May 2015. The inspection traversed the site boundary for four hours to identify habitat potential for threatened flora and fauna species, and to validate the type and extent of vegetation communities present within the site boundary.

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Riparian

A desktop review of the riparian areas within the site boundary was undertaken using Statewide mapping of waterways and Council mapping of watercourses and riparian lands within the SLEP 2014.

During the site inspection, photographs were taken to assist in determining whether a defined bed or bank was present within the mapped drainage line and whether aquatic / riparian vegetation was present.

Ecological and riparian constraints

Ecological constraints are determined by a set of criteria that includes:

- Conservation status (state and federal)
- Rarity
- Uniqueness
- Condition
- Ecological function

These criteria are subjectively considered and scored to indicate whether particular areas or features are likely to represent a constraint to a particular future development. Ecological constraints are ranked as high, moderate and low.

Riparian constraints are largely centred on requirements under the NSW *Water Management Act 2000* (WM Act). Constraints are dictated by the requirements of the WM Act to protect and manage riparian corridors and waterbodies. Similarly, riparian constraints are scored and ranked as high, moderate and low.

Ecological results and discussion

Vegetation communities

Desktop assessment

The fringe of the Coomonderry Swamp to the immediate south east of the site boundary is mapped as Floodplain Swamp Forest, a community included in the Coastal Floodplain Wetlands vegetation class (Keith 2004), which forms a component of the Swamp Oak Floodplain Forest Endangered Ecological Community (EEC) under the TSC Act. The vegetation within Coomonderry Swamp is also mapped as '*Biodiversity – habitat* corridor' and '*Biodiversity – significant vegetation*' under the *Terrestrial Biodiversity Map* of the SLEP 2014. A portion of the biodiversity layer falls within the site boundary, but outside of the impact area and within the proposed buffer to the swamp.

Within the site boundary, the desktop assessment showed that the majority of the site boundary is cleared of vegetation. The remaining vegetation has been mapped as follows:

- Illawarra Gully Wet Forest, a community included in the North Coast Wet Sclerophyll Forests vegetation class (Keith 2004).
- Illawarra Lowland Swamp Woodland, also referred to as the South Coast Lowland Swamp Woodland (Tozer *et al* 2010), and forms part of the Illawarra Lowlands Grassy Woodland (ILGW) of the Sydney Bioregion, which is listed as Endangered Ecological Community (EEC) under the TSC Act.

- Floodplain Swamp Forest, a community included in the Coastal Floodplain Wetlands vegetation class (Keith 2004), forms a component of the Swamp Oak Floodplain Forest Endangered Ecological Community (EEC) under the TSC Act.
- Coastal Sand Forest, a community included in the South Coast Sands Dry Sclerophyll Forest vegetation class (Keith 2004).

The desktop assessment also showed that the large woodland vegetation patch on south east site boundary is mapped as *'Biodiversity – significant vegetation'* under the *Terrestrial Biodiversity Map* of the SLEP 2014.

Site inspection

The site inspection confirmed the presence of the above mentioned vegetation communities within the site boundary (**Figure 2**), with some changes to extent and community updated via the field validation process. The fringe of the Coomonderry swamp immediately adjacent the site boundary is also discussed below.

Area of the site boundary subject to the SLEP 2014 Terrestrial biodiversity layer are mapped within Figure 3.

These communities are described as follows:

Illawarra Gully Wet Forest: Within the site boundary, this vegetation community covers an area of approximately 4.29 ha and consists of one large woodland patch (2.61 ha), three smaller patches and a number of scattered trees. For the most part, these smaller patches of vegetation and scattered trees lack understorey, shrub and tree species due to long term grazing, and comprise canopy species over a grassy and herbaceous understorey dominated by *Pennisetum clandestinum* (Kikuyu). These areas are considered to have low vegetation condition.

The large woodland patch (2.61 ha), located along the south eastern boundary, is the most floristically diverse and is considered to have good vegetation condition. This patch has been historically mapped as Illawarra Gully Wet Forest but site inspection found that the lower southern slopes were more aligned to Illawarra Lowland Swamp Woodland (discussed below), and has been mapped as such (**Figure 2**).

Canopy species within the large woodland patch of the Illawarra Gully Wet Forest are dominated by *Eucalyptus pilularis* (Blackbutt) and *Eucalyptus paniculata* (Grey Ironbark) with *Syncarpia glomulifera* (Turpentine) and *Eucalyptus* sp. (a stringybark) to a lesser degree. Saplings of canopy species are present. Understorey tree and shrub species are uncommon but where present, include *Clerodendrum tomentosum* and *Acacia binervata*. Ground layer species include, but are not limited to, *Poa labillardieri, Carex* sp., *Microlaena stipoides, Hibbertia scandens, Tylophora barbata, Commelina cyanea, Oplismenus aemulus* and *Pseuderanthemum variabile*. Weed species are also common and include *Sida rhombifolia, Bidens pilosa, Pennisetum clandestinum* and *Cirsium vulgare*. Stags, hollow bearing trees and fallen woody debris are also common. The patch likely contains more hollow bearing trees than could be assessed within the site inspection.

Illawarra Lowland Swamp Woodland: Within the site boundary, this community has been historically mapped as occurring along the road verges of Beach Road in the north of the site boundary. From site inspection, the fringing roadside community is more aligned with Floodplain Swamp Forest as is discussed below.

Within the site boundary, there are three vegetation patches of the Illawarra Lowland Swamp Woodland.

A patch of Illawarra Lowland Swamp Woodland (0.38 ha) was identified as occurring within the lower slopes of the large woodland patch along the south-eastern boundary (**Figure 2**) where canopy trees are dominated by *Eucalyptus longifolia, Eucalyptus tereticornis* and *Angophora floribunda* over a grassy understorey dominated

by *Imperata cylindrica* (Blady Grass). Shrubs are absent. This patch is considered to have moderate vegetation condition.

Two patches of *Casuarina glauca* (Swamp Oak) located on the southern boundary of the impact site may also align to this community given the location in the landscape and the occurrence of *Eucalyptus tereticornis* (Forest Red Gum) adjacent to these patches. Shrubs are absent and the ground layer is dominated by exotic pasture grasses. The two patches totaling 0.35 ha are considered to have low vegetation condition.

Floodplain Swamp Forest: As mentioned above, with the site boundary, this community is present occurring along the road verges of Beach Road. This patch (0.25 ha) is considered to have low vegetation condition, with some native shrub species including *Melaleuca linariifolia, Parsonsia straminea* (Silky Pod) and *Gahnia* sp. together with a range of exotic species.

This community is also located within the fringe of the Coomonderry fresh water swamp outside the site boundary to the south west. Whilst this area is outside of the scope of this report, the vegetation at the northern edge of this community is dominated by *Casuarina glauca* over *Carex* sp. and is inundated by water. South of this edge and into the swamp area *Melaleuca ericifolia* predominates.

Coastal Sand Forest: Two small patches (0.10 ha) of this community are found within the site boundary and are dominated by a canopy of *Angophora floribunda* (Rough-barked Apple) over an exotic pasture. Due to the highly modified nature of these small patches and the lack of understorey species typical of this community, a conservative approach to existing mapping has been adopted and mapping remains unchanged. These patches are considered to have low vegetation condition.

Scattered Native Paddock Trees: There is one other un-mapped patch of *Casuarina glauca* woodland (0.23 ha) located at the headwaters of the drainage line above the southern upper dam. This patch occurs high in the landscape and may be an artefact of the wetter conditions at this point. The understorey comprises exotic pasture, and shrubs are absent. Other native trees are scattered within the site boundary including a large *Eucalyptus robusta* (Swamp Mahogany) near the Coastal Sand Forest in the north of the site.

Exotic Pasture Grasses and Scattered Trees: Includes all of the land (approximately 48.1 ha) where the native vegetation has been removed for agricultural purposes. These areas are dominated by non-native pasture grasses, herbaceous weeds and scattered exotic trees (**Figure 2**), with *Pennisetum clandestinum* the dominant exotic grass throughout, forming dense swards across the landscape.

Habitat features

Habitat features observed during the site inspection include the following:

- Diverse vegetation types woodland, grassland, wetland
- Hollow bearing trees and stags
- Fallen trees, logs and other smaller woody debris.

Threatened flora

18 threatened flora species were identified in the desktop search as either previously being recorded nearby or being likely to occur within the site boundary due to the presence of suitable habitat (**Appendix A**).

No threatened flora species were recorded during the site inspection.

One threatened species is considered to have the potential to occur within the site boundary. *Solanum celatum* has the potential to occur within the large woodland patch of Illawarra Gully Wet Forest and Illawarra Lowland Swamp Woodland on the south east boundary; although this area has a history of grazing, it is floristically diverse.

Threatened fauna

68 threatened (three frogs, one snake, 49 birds, 15 mammals), including 19 migratory bird species, were identified in the desktop searches as either being previously recorded or likely to occur within a 5 km radius of the site boundary (**Appendix A**).

No threatened fauna species were recorded during the site visit.

However, an assessment of the likely occurrence of each threatened and migratory species identified was undertaken (**Appendix A**). This assessment involved a process of combining our knowledge of the habitat within the site boundary with the ecology and biology of each species identified within the database searches. This assessment identified nine threatened birds, four migratory birds and seven threatened bats as being likely or having the potential to occur within the site boundary, these species are highlighted within the table in **Appendix A**. Impacts to these species would require further assessment at the development application stage.

Note: this assessment was not intended to provide an inventory of all species present within the site boundary, but instead provide an overall assessment of the ecological and riparian values of the site boundary with particular emphasis on threatened species, populations, ecological communities and key fauna habitat features. No aquatic assessment has been undertaken as part of this constraints analysis.

Riparian land

The desktop assessment identified a 1st order stream (under the Strahler System) running south-north within the site boundary, associated with two farm dams. An offline farm dam is also located on the opposite and northern side of Beach Road and is within 40 m of the land proposed for rezoning. This stream and the dams are shown on **Figure 8**.

The desktop assessment also identified that land within Coomonderry Swamp to the south west of the site boundary is mapped as *'Riparian land'* under the *Riparian Lands Map* of the SLEP 2014. A portion of the riparian lands layer falls within the site boundary, but outside of the impact area and within the proposed buffer to the swamp. It is noted that no watercourses are mapped within the site boundary under the SLEP 2004.

The 1st order stream flowing south-north through the property is a tributary of Blue Angle Creek, which flows to Crooked River (**Figure 8**). Under the WM Act, 1st order streams typically require a vegetated riparian zone to be managed for 10 m either side of the top of the bank of the stream (i.e. a riparian corridor width of 20 m plus the width of the stream channel) per **Table 1**. However, during the site inspection and evidenced from photographs (**Figures 4 to 7**), the stream mostly has no defined bed or bank, and, therefore, is unlikely to meet the definition of a river under the WM Act. The exceptions to this are the erosion gully draining the central dam, and a narrow channel in the road verge leading to a culvert, both which have small banks. The NSW Office of Water (NOW) will be able to advise whether *Waterfront Land* (and riparian corridors) applies to this stream.

Offline dams shown on the 1:25,000 topography map are also unlikely to be *Waterfront Land* under the WM Act. Therefore, with agreement from NOW, riparian corridor buffers may not be required for offline dams on or adjacent to the property.

Strahler Stream Order	Vegetated Riparian Zone (Riparian Corridor) width
1 st	10 m
2 nd	20 m
3 rd	30 m
4 th and higher	40 m

Table 1: Vegetated Riparian Zone requirements under the NSW Water Management Act 2000

Ecological constraints

The site boundary contains areas of ecological value which represent varying levels of constraint to future development. As a general principle, impact to areas of high constraint should be avoided and impacts to areas of moderate constraint should be minimized when considering proposed rezoning (**Figure 9**).

Within the site boundary, areas of high constraint are:

- The large woodland patch on the south east site boundary containing Illawarra Wet Gully Forest with good vegetation condition and the adjoining Illawarra Lowland Swamp Woodland EEC in moderate condition; due to the high diversity of native flora species and habitat features (logs, hollows and dense ground layer vegetation).
- The large woodland patch on the south east site boundary due to the majority of it being mapped as 'Biodiversity – significant vegetation' under the Terrestrial Biodiversity Map of the SLEP 2014.
- Hollow-bearing trees and stags. Note that additional hollow bearing trees are expected to occur within the large woodland patch.
- The 1st order stream and its indicative riparian buffer and offsite dam waterfront land buffer, requiring consultation with NOW.
- Areas of the south west site boundary that fall within the following SLEP 2014 mapping layers:
 - *Riparian land'* under the *Riparian Lands Map*
 - 'Biodiversity habitat corridor' and 'Biodiversity significant vegetation' under the Terrestrial Biodiversity Map.

It is noted that impacts are not proposed to this buffer area, however consultation with Council will be required to determine any requirements over these areas, including whether SLEP 2014 mapping could be amended to match validated vegetation mapping.

Within the site boundary, areas of moderate constraint are:

- Illawarra Lowland Swamp Woodland EEC with low vegetation condition two patches of Swamp Oak on the southern boundary of the impact site.
- Illawarra Gully Wet Forest with low vegetation condition canopy trees, historic under-scrubbing, diverse native ground layer.
- Floodplain Swamp Forest with low vegetation condition along the roadside fringe of the northern site boundary comprising a mix of native and exotic species.
- Coastal Sand Forest with low vegetation condition and lacking understory species.

The remaining areas within the subject have low ecological constraints, including scattered native paddock trees and exotic pasture grasses and scattered exotic trees.

The presence of high ecological constraints does not mean that development of the area is not possible, but rather, careful planning is required to demonstrate that all steps have been taken into consideration to avoid impacts to these features. Where avoidance is not possible, mitigation measures must be developed to reduce potential impacts. In some cases, areas subject to SLEP 2014 mapping have been included as these areas will require further consultation with NOW and Council to determine their requirements.

Conclusion

The site boundary area contains a combination of native and derived vegetation communities. One area of high ecological constraint is the large woodland patch on the south east boundary of Illawarra Wet Gully Forest and adjoining Illawarra Lowland Swamp Woodland EEC. This patch comprises an area of 2.99 ha and is floristically diverse despite past disturbance and the presence of weeds. A portion of this patch of vegetation has been mapped as '*Biodiversity – significant vegetation*' under the *Terrestrial Biodiversity Map* of the SLEP 2014. There are a number of hollow bearing trees and stags also considered to have high ecological constraint within this woodland patch and in other parts of the property.

Consideration should be given to the retention of vegetation mapped with moderate constraint, including two patches of Swamp Oak belonging to the Illawarra Lowland Swamp Woodland (EEC) on the southern boundary of the impact site and other native vegetation patches in the north west of the site boundary.

No threatened flora species were observed during the brief site visit; however one species, *Solanum celatum* has the potential to occur within the site boundary.

No threatened fauna were observed within the brief site visit, however, based on habitat features, including hollow bearing trees, the land within the site boundary contains likely or potential habitat for nine threatened birds, four migratory birds and seven threatened bats. Further assessment for potential impacts to these species would be required at the development application stage.

The site boundary contains a 1st order stream which is a tributary of Blue Angle Creek. The stream mostly has no defined bed or bank, and therefore, is unlikely to meet the definition of a river under the WM Act. The exceptions to this are the erosion gully draining the central dam, and a narrow channel in the road verge leading to a culvert, both which have small banks. The NSW Office of Water (NOW) will be able to advise whether *Waterfront Land* (and riparian corridors) applies to this stream and whether a riparian corridor buffer would be required to buffer the dam located outside the site boundary to the north and on the opposite side of Beach Road. ELA recommend early consultation with NOW to determine their requirements for this stream and the offline dams.

Consultation with Council for areas mapped *Terrestrial Biodiversity* and *Riparian Lands* under the SLEP 2014, should be undertaken at an early stage to understand any requirements in relation to these areas.

The site boundary contains features of high and moderate ecological constraint. Future development should avoid impacts to features of high ecological constraint and minimise impacts to areas of moderate ecological constraint. Should avoidance not be possible, ways to mitigate impacts must be identified.

If you have any questions regarding this assessment, please do not hesitate to contact the undersigned.

Yours sincerely,

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References

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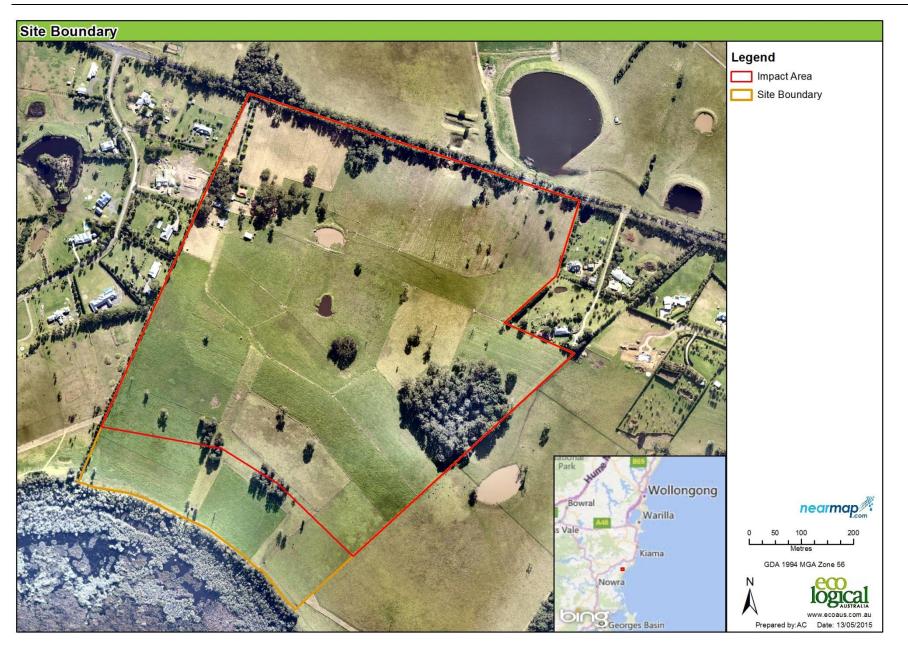


Figure 1. Location of site boundary

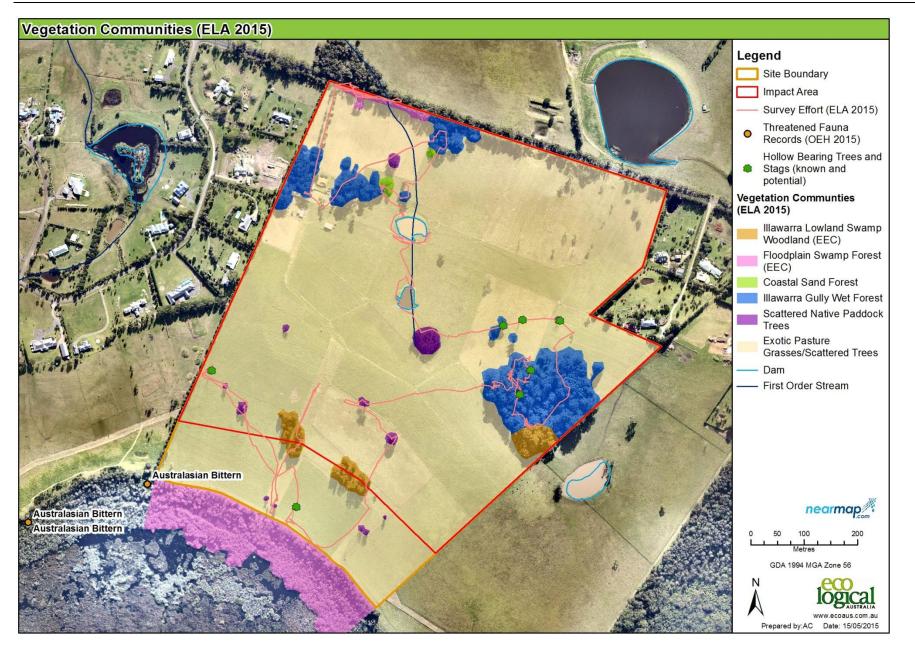


Figure 2. Vegetation communities and location of hollow bearing trees and stags

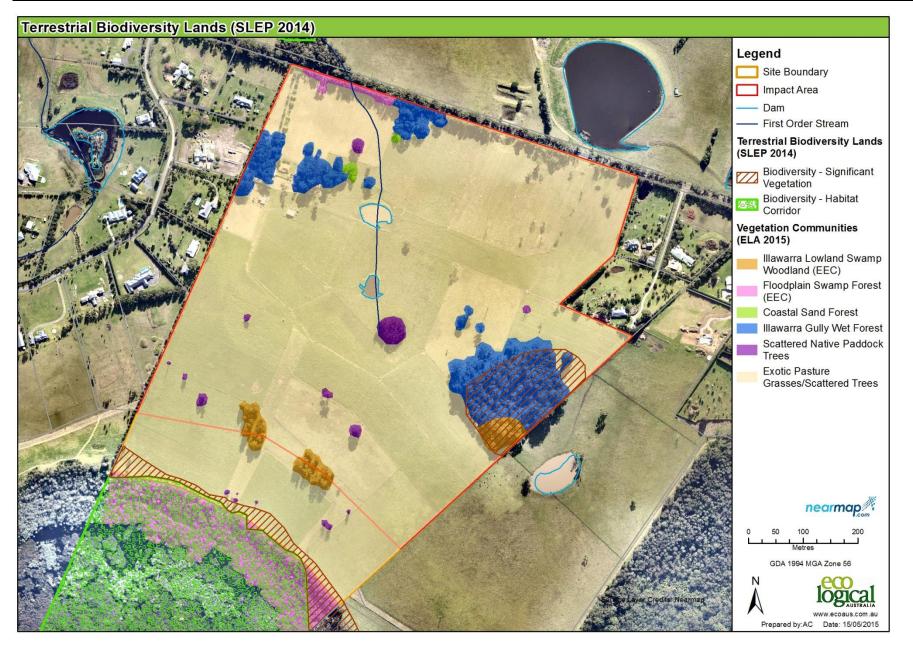


Figure 3. Vegetation communities and location of terrestrial biodiversity mapping from SLEP 2014



Figure 4. Water draining out of paddock on southern side of Beach Road and into stormwater under road



Figure 5. View to north between northern farm dam and Beach Road in background



Figure 6. View to north between two farm dams, overlooking northern dam in background



Figure 7. View to north, overlooking southern dam

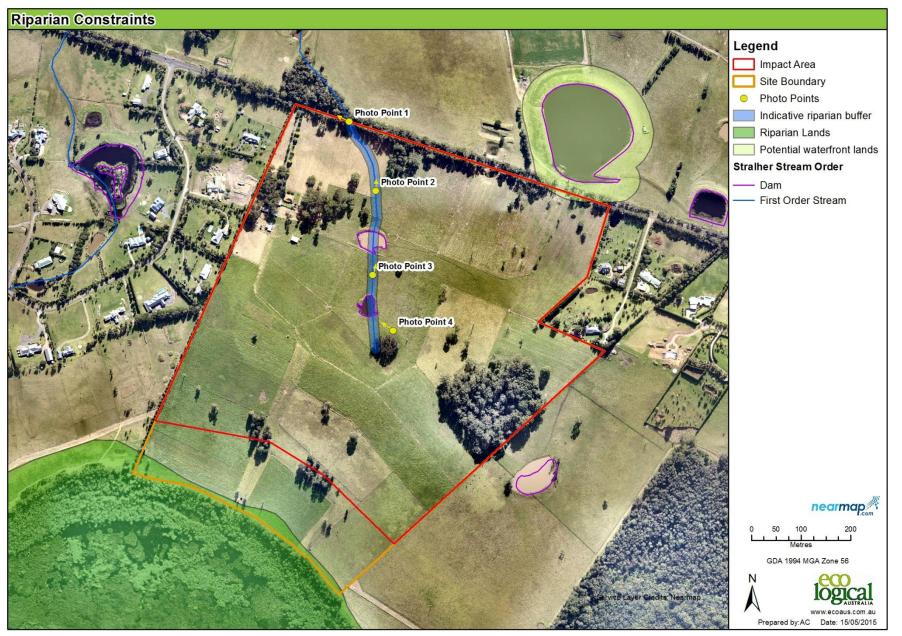


Figure 8. Riparian areas

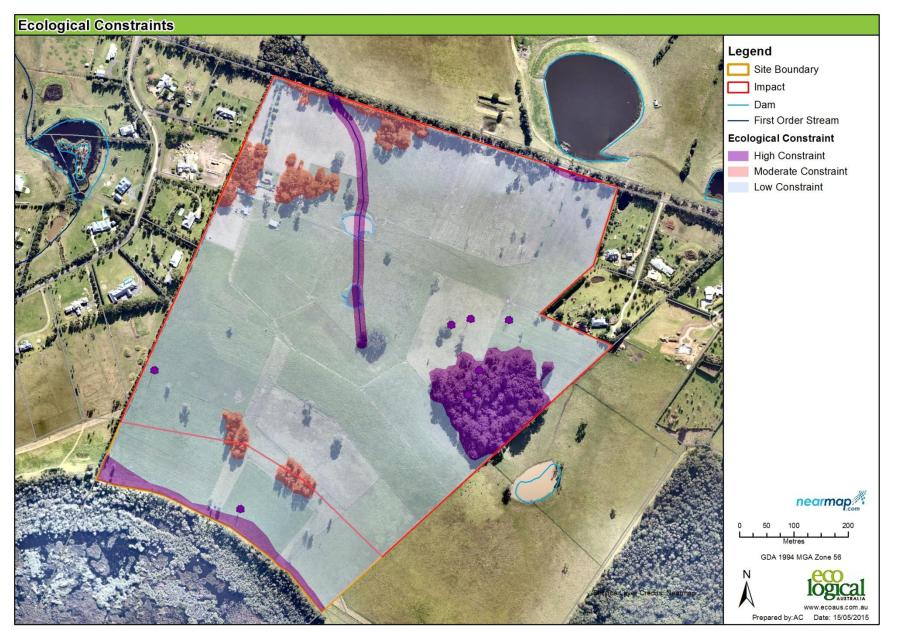


Figure 9. Ecological constraints

Appendix A Threatened species and communities likelihood of occurrence

Summary of initial assessment to determine the likelihood of occurrence of threatened species, populations and ecological communities in the site.

An assessment of likelihood of occurrence was made for threatened and migratory species identified from the database search. Five terms for the likelihood of occurrence of species are used in this report. This assessment was based on database or other records, presence or absence of suitable habitat, features of the proposal site, results of the field survey and professional judgement. The terms for likelihood of occurrence are defined below:

- "yes" = the species was or has been observed on the site.
- "likely" = a medium to high probability that a species uses the site.
- "potential" = suitable habitat for a species occurs on the site, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur.
- "unlikely" = a very low to low probability that a species uses the site.
- "no" = habitat on site and in the vicinity is unsuitable for the species.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Flora						
Boronia deanei	Deane's Boronia	v	V	Scattered populations between the far south-east of NSW and the Blue Mountains (including the upper Kangaroo River near Carrington Falls, the Endrick River near Nerriga and Nalbaugh Plateau).	Wet heath, often at the margins of open forest adjoining swamps or along streams.	Unlikely, no suitable habitat
Chamaesyce psammogeton	Sand Spurge	E1		Sparsely along the coast from south of Jervis Bay (at Currarong, Culburra and Seven Mile Beach National Park) to Qld (and Lord Howe Island).	Fore-dunes, pebbly strandlines and exposed headlands, often with <i>Spinifex</i> <i>sericeus</i> (Spinifex) and <i>Zoysia</i> <i>macrantha</i> (Prickly Couch).	Unlikely, no suitable habitat
Cryptostylis hunteriana	Leafless Tongue Orchid	V	V	In NSW, recorded mainly on	Coastal heathlands	Unlikely, no suitable habitat
Cynanchum elegans	White-flowered Wax Plant	E1	E	Restricted to eastern NSW, from Brunswick Heads on the north coast to Gerroa in the Illawarra region, and as far west as Merriwa in the upper Hunter River valley.	Dry rainforest; littoral rainforest; <i>Leptospermum</i> <i>laevigatum-Banksia integrifolia</i> <i>subsp. integrifolia</i> (Coastal Tea-tree– Coastal Banksia) coastal scrub; <i>Eucalyptus</i> <i>tereticornis</i> (Forest Red Gum) or <i>Corymbia maculata</i> (Spotted Gum) open forest and woodland; and <i>Melaleuca</i> <i>armillaris</i> (Bracelet Honeymyrtle) scrub.	Unlikely, no suitable habitat

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Daphnandra johnsonii	Illawarra Socketwood	E1	E	Restricted to the Illawarra region, in the Shoalhaven, Kiama, Shellharbour and Wollongong areas.	Rainforest and moist eucalypt forest on rocky hillsides and gullies of the Illawarra lowlands, occasionally extending onto the upper escarpment slopes.	Unlikely, no suitable habitat
Genoplesium baueri	Bauer's Midge Orchid	E1	E	Has been recorded from locations between Nowra and Pittwater and may occur as far north as Port Stephens.	Dry sclerophyll forest and moss gardens over sandstone.	Unlikely, no suitable habitat
Haloragis exalata subsp. exalata	Square Raspwort	V	V	Disjunct distribution in the Central Coast, South Coast and North Western Slopes botanical subdivisions of NSW.	Protected and shaded damp situations in riparian habitats.	Unlikely, no suitable habitat
Lastreopsis hispida	Bristly Shield Fern	E1		In NSW the only recent confirmed records are from Mt Wilson in the Blue Mountains.	Wet forest and rainforest gullies on moist humus-rich soils.	Unlikely, no suitable habitat
Melaleuca biconvexa	Biconvex Paperbark	V	V	Only found in NSW, populations found in the Jervis Bay area in the south and the Gosford- Wyong area in the north.	Damp places, often near streams or low-lying areas on alluvial soils.	Unlikely, no suitable habitat
Pimelea spicata	Spiked Rice-flower	E1	E	Two disjunct areas; the Cumberland Plain (Marayong and Prospect Reservoir south to Narellan and Douglas Park) and the Illawarra (Landsdowne to Shellharbour to northern Kiama).	Well-structured clay soils. <i>Eucalyptus moluccana</i> (Grey Box) communities and in areas of ironbark on the Cumberland Plain.	Unlikely, no suitable habitat
Pomaderris brunnea	Brown Pomaderris	E	V	In NSW, found around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area and near Camden. It also occurs	Moist woodland or forest on clay and alluvial soils of flood plains and creek lines.	Unlikely – no suitable habitat

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Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
				near Walcha on the New England tablelands.		
Pterostylis gibbosa	Illawarra Greenhood	E1	E	Known from a small number of populations in the Hunter region (Milbrodale), the Illawarra region (Albion Park and Yallah) and the Shoalhaven region (near Nowra).	Open forest or woodland, on flat or gently sloping land with poor drainage.	Unlikely, no suitable habitat
Solanum celatum		E1		Restricted to an area from Wollongong to just south of Nowra, and west to Bungonia.	Rainforest clearings and wet sclerophyll forests.	Potential
Streblus pendulinus	Siah's Backbone, Sia's Backbone, Isaac Wood	Ρ	E	East coast south to Milton, south-east NSW, as well as Norfolk Island.	Warmer rainforests, chiefly along watercourses.	No
Thelymitra kangaloonica	Kangaloon Sun Orchid	E4A	CE	Only known to occur on the southern tablelands of NSW in the Moss Vale / Kangaloon / Fitzroy Falls area at 550-700 m above sea level.	Swamps in sedgelands over grey silty grey loam soils.	No
Thesium australe	Austral Toadflax	V	V	In eastern NSW it is found in very small populations scattered along the coast, and from the Northern to Southern Tablelands.	Grassland on coastal headlands or grassland and grassy woodland away from the coast.	Unlikely, no suitable habitat – grassland areas exotic dominated.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Triplarina nowraensis	Nowra Heath Myrtle	E1	E	Three populations to the immediate west of Nowra, a forth 18km south-west of Nowra in the Boolijong Creek Valley, and a fifth north of the Shoalhaven River on the plateau above Bundanon.	Moist heath on poorly drained, gently sloping sandstone shelves or along creek lines underlain by Nowra Sandstone.	No
Zieria granulata	Illawarra Zieria	E1	E	Restricted to the Illawarra region, primarily on the coastal lowlands between Oak Flats and Toolijooa.	Sclerophyll forest, scrub, woodland and rainforest margins. Typically on rocky ridges and outcrops in shallow volcanic soils, also moist slopes of the Illawarra escarpment and low-lying areas on Quaternary sediments.	Unlikely – no suitable habitat
Birds						
Actitis hypoleucos	Common Sandpiper	Ρ	C,J,K	Summer migrant. In NSW, widespread along coastline and also occurs in many areas inland.	Coastal wetlands and some inland wetlands, especially muddy margins or rocky shores. Also estuaries and deltas, lakes, pools, billabongs, reservoirs, dams and clay pans, mangroves.	Unlikely, no suitable habitat

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Anthochaera phrygia	Regent Honeyeater	E4A	E	Inland slopes of south-east Australia, and less frequently in coastal areas. In NSW, most records are from the North-West Plains, North-West and South- West Slopes, Northern Tablelands, Central Tablelands and Southern Tablelands regions; also recorded in the Central Coast and Hunter Valley regions.	Eucalypt woodland and open forest, wooded farmland and urban areas with mature eucalypts, and riparian forests of <i>Casuarina cunninghamiana</i> <i>(</i> River Oak).	Unlikely
Apus pacificus	Fork-tailed Swift	Ρ	C,J,K, Mar	Recorded in all regions of NSW.	Riparian woodland., swamps, low scrub, heathland, saltmarsh, grassland, Spinifex sandplains, open farmland and inland and coastal sand- dunes.	Potential, suitable habitat on site
Ardea alba	Great Egret	Ρ	C, J, Mar	Widespread, occurring across all states/territories. Also a vagrant on Lord Howe and Norfolk Island.	Swamps and marshes, grasslands, margins of rivers and lakes, salt pans, estuarine mudflats and other wetland habitats.	Potential, suitable habitat on site
Botaurus poiciloptilus	Australasian Bittern	E1	E	Found over most of NSW except for the far north-west.	Permanent freshwater wetlands with tall, dense vegetation, particularly <i>Typha</i> spp. (bull rushes) and <i>Eleocharis</i> spp. (spike rushes).	Likely, previously recorded in adjoining swampland to south of the site boundary
Burhinus grallarius	Bush Stone-curlew	E1		In NSW, found sporadically in coastal areas, and west of the divide throughout the sheep-wheat belt.	In NSW, it occurs in lowland grassy woodland and open forest.	Unlikely, no suitable habitat on site

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Calidris melanotos	Pectoral Sandpiper	Ρ	J,K	Summer migrant to Australia. Widespread but scattered in NSW. East of the Great Divide, recorded from Casino and Ballina, south to Ulladulla. West of the Great Divide, widespread in the Riverina and Lower Western regions.	Shallow fresh to saline wetlands, including coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	Unlikely, no suitable habitat
Callocephalon fimbriatum	Gang-gang Cockatoo	V		In NSW, distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. Isolated records known from as far north as Coffs Harbour and as far west as Mudgee.	Tall mountain forests and woodlands in summer; in winter, may occur at lower altitudes in open eucalypt forests and woodlands, and urban areas.	Unlikely
Calyptorhynchus lathami	Glossy Black-Cockatoo	V		In NSW, widespread along coast and inland to the southern tablelands and central western plains, with a small population in the Riverina.	Open forest and woodlands of the coast and the Great Dividing Range where stands of she-oak occur.	Unlikely
Circus assimilis	Spotted Harrier	V		Found throughout the Australian mainland, except in densely forested or wooded habitats, and rarely in Tasmania.	Grassy open woodland, inland riparian woodland, grassland, shrub steppe, agricultural land and edges of inland wetlands.	Potential, large areas of exotic grassland
Daphoenositta chrysoptera	Varied Sittella	V		Distribution in NSW is nearly continuous from the coast to the far west.	Inhabits eucalypt forests and woodlands, mallee and <i>Acacia</i> woodland.	Potential

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Dasyornis brachypterus	Eastern Bristlebird	E1	E	There are three main populations: Northern - southern Qld/northern NSW, Central - Barren Ground NR, Budderoo NR, Woronora Plateau, Jervis Bay NP, Booderee NP and Beecroft Peninsula and Southern - Nadgee NR and Croajingalong NP in the vicinity of the NSW/Victorian border.	Central and southern populations inhabit heath and open woodland with a heathy understorey. In northern NSW, habitat comprises open forest with dense tussocky grass understorey.	Unlikely, no suitable habitat
Egretta sacra	Eastern Reef Egret	Ρ	С	Coast and islands of most of Australia, including NSW.	Beaches, rocky shores, tidal rivers and inlets, mangroves, and exposed coral reefs.	Unlikely, no suitable habitat
Ephippiorhynchus asiaticus	Black-necked Stork	E1		Coastal and sub-coastal northern and eastern Australia, south to central-eastern NSW and with vagrants recorded further south and inland.	In NSW, floodplain wetlands of the major coastal rivers are key habitat. Also minor floodplains, coastal sandplain wetlands and estuaries.	Unlikely
Epthianura albifrons	White-fronted Chat	V		Occurs mostly in the southern half of the state, in damp open habitats along the coast, and near waterways in the western part of the state.	Saltmarsh vegetation, open grasslands and sometimes low shrubs bordering wetland areas.	Unlikely

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Esacus magnirostris	Beach Stone-curlew	E4A		Across northern and north- eastern Australia, south to the Manning River in north-eastern NSW, with occasional vagrants to south-eastern NSW and Victoria.	Exclusively along the coast, on beaches, islands, reefs and in estuaries, and edges of or near mangroves.	Unlikely, no suitable habitat
Glossopsitta pusilla	Little Lorikeet	V		In NSW, found from the coast westward as far as Dubbo and Albury.	Dry, open eucalypt forests and woodlands, including remnant woodland patches and roadside vegetation.	Potential, suitable habitat on site
Haematopus longirostris	Pied Oystercatcher	E1		Thinly scattered along the entire NSW coast.	Intertidal flats of inlets and bays, open beaches and sandbanks.	Unlikely, no suitable habitat
Hieraaetus morphnoides	Little Eagle	v		Throughout the Australian mainland, with the exception of the most densely-forested parts of the Dividing Range escarpment.	Open eucalypt forest, woodland or open woodland, including sheoak or <i>Acacia</i> woodlands and riparian woodlands of interior NSW.	Potential, eucalypt woodland and she- oaks present
Hydroprogne caspia	Caspian Tern	Р	C,J	Widespread in coastal and inland NSW.	Coastal offshore waters, beaches, mudflats, estuaries, rivers, lakes.	Unlikely – no suitable habitat
Ixobrychus flavicollis	Black Bittern	V		In NSW, records are scattered along the east coast, with individuals rarely being recorded south of Sydney or inland.	Terrestrial and estuarine wetlands. Also flooded grassland, forest, woodland, rainforest and mangroves where permanent water is present.	Potential – suitable habitat along southern boundary

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Lathamus discolor	Swift Parrot	E1	E	Migrates from Tasmania to mainland in Autumn-Winter. In NSW, the species mostly occurs on the coast and south west slopes.	Box-ironbark forests and woodlands.	Unlikely – no suitable habitat
Lophoictinia isura	Square-tailed Kite	V		In NSW, it is a regular resident in the north, north-east and along the major west-flowing river systems. It is a summer breeding migrant to the south-east, including the NSW south coast.	Timbered habitats including dry woodlands and open forests, particularly timbered watercourses.	Potential
Monarcha melanopsis	Black-faced Monarch	Ρ	Bonn, Mar	In NSW, occurs around the eastern slopes and tablelands of the Great Divide, inland to Coutts Crossing, Armidale, Widden Valley, Wollemi National Park and Wombeyan Caves. It is rarely recorded farther inland.	Rainforest, open eucalypt forests, dry sclerophyll forests and woodlands, gullies in mountain areas or coastal foothills, Brigalow scrub, coastal scrub, mangroves, parks and gardens.	Unlikely
Monarcha trivirgatus	Spectacled Monarch	Р	Bonn, Mar	Coastal eastern Australia south to Port Stephens in NSW.	Mountain/lowland rainforest, wooded gullies, riparian vegetation including mangroves.	Unlikely, no suitable habitat
Myiagra cyanoleuca	Satin Flycatcher	Ρ	Bonn, Mar	In NSW, widespread on and east of the Great Divide and sparsely scattered on the western slopes, with very occasional records on the western plains.	Eucalypt-dominated forests, especially near wetlands, watercourses, and heavily- vegetated gullies.	Unlikely, suitable habitat present

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Neophema chrysogaster	Orange-bellied Parrot	E4A	CE	Breeds in Tasmania and migrates in autumn to spend the winter on the mainland coast of south-eastern SA and southern Victoria. Occasional reports from NSW, most recently Shellharbour and Maroubra in May 2003.	Winter habitat is mostly within 3 km of the coast in sheltered bays, lagoons, estuaries, coastal dunes and saltmarshes. Also small islands and peninsulas, saltworks, golf courses, low samphire herbland and taller coastal shrubland.	Unlikely – no suitable habitat
Ninox connivens	Barking Owl	V		Wide but sparse distribution in NSW, avoiding the most central arid regions. Core populations exist on the western slopes and plains and in some northeast coastal and escarpment forests.	Woodland and open forest, including fragmented remnants and partly cleared farmland, wetland and riverine forest.	Unlikely
Ninox strenua	Powerful Owl	V		In NSW, it is widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered records on the western slopes and plains.	Woodland, open sclerophyll forest, tall open wet forest and rainforest.	Unlikely
Numenius minutus	Little Curlew	Ρ	C,J,K	Summer migrant to Australia. In NSW, most records scattered east of the Great Dividing Range, from Casino, south to Greenwell Point with a few scattered records west of the Great Dividing Range.	Dry grasslands, open woodlands, floodplains, margins of drying swamps, tidal mudflats, airfields, playing fields, crops, salt fields, sewage ponds.	Unlikely

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Oxyura australis	Blue-billed Duck	V		Widespread in NSW, but is most concentrated in the southern Murray-Darling Basin area.	Coastal and inland wetlands and swamps.	Potential – suitable habitat along southern boundary
Pachycephala olivacea	Olive Whistler	V		In NSW chiefly occurs around Barrington Tops and the MacPherson Ranges, and from the Illawarra south to Victoria. In the south it is found inland to the Snowy Mountains and the Brindabella Range.	Mostly inhabits wet forests above about 500m.	Unlikely – no suitable habitat
Petroica boodang	Scarlet Robin	V		In NSW, it occurs from the coast to the inland slopes.	Dry eucalypt forests and woodlands, and occasionally in mallee, wet forest, wetlands and tea-tree swamps.	Unlikely
Pezoporus wallicus wallicus	Eastern Ground Parrot	V		In NSW, found in small numbers on the north coast (Broadwater, Bundjalung, Yuraygir NPs) and Myall Lakes on the central coast. Larger populations found on south coast, particularly Barren Grounds NR, Budderoo NP, the Jervis Bay area and Nadgee NR. Small numbers are recorded at Morton and Ben Boyd NP and other areas on the south coast.	Coastal or subcoastal low heathland and sedgeland.	Unlikely – no suitable habitat

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Plegadis falcinellus	Glossy Ibis	Ρ	С	Recorded over much of NSW. Spring/summer breeding migrant to southern Murray-Darling region and Macquarie Marshes.	Edges of lakes and rivers, lagoons, flood-plains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. Occasionally estuaries, deltas, saltmarshes and coastal lagoons.	Likely – suitable habitat such as floodplains and wet meadows
Pluvialis squatarola	Grey Plover	Р	C,J,K	Regular summer migrant to coastal Australia, including NSW. Rarely inland, on passage.	Mudflats, saltmarsh, tidal reefs and estuaries.	Unlikely – no suitable habitat
Ptilinopus superbus	Superb Fruit-Dove	V		Principally from north-eastern Qld to north-eastern NSW. Further south, it is confined to pockets of suitable habitat, and occurs as far south as Moruya.	Rainforest and closed forests. May also forage in eucalypt or acacia woodland where there are fruit-bearing trees.	Unlikely
Rhipidura rufifrons	Rufous Fantail	Р	Bonn, Mar	Coastal and near coastal districts of northern and eastern Australia, including on and east of the Great Divide in NSW.	Wet sclerophyll forests, subtropical and temperate rainforests. Sometimes drier sclerophyll forests and woodlands.	Unlikely
Rostratula australis	Australian Painted Snipe	E1	E, Mar	In NSW most records are from the Murray-Darling Basin. Other recent records include wetlands on the Hawkesbury River and the Clarence and lower Hunter Valleys.	Swamps, dams and nearby marshy areas.	Likely – dams on site

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Sterna hirundo	Common Tern	Ρ	C,J,K	Regular summer migrant to northern and eastern coastal Australia, including coastal NSW. Also scattered inland records.	Offshore waters, ocean beaches, estuaries, large lakes. Less commonly freshwater swamps, floodwaters, sewage farms and brackish and saline lakes.	Unlikely – no suitable habitat
Sternula albifrons	Little Tern	E1	C,J,K	In NSW, it arrives from September to November, occurring mainly north of Sydney, with smaller numbers found south to Victoria.	Sheltered coastal environments, harbours, inlets and rivers.	Unlikely – no suitable habitat
Thinornis rubricollis	Hooded Plover	E4A		Occurs in coastal NSW north to Sussex Inlet. Occasional records from the Shoalhaven River, Comerong Beach and Lake Illawarra.	Sandy ocean beaches, tidal bays and estuaries, rock platforms, rocky or sand- covered reefs, and small beaches in lines of cliffs. Also use near-coastal saline and freshwater lakes and lagoons.	Unlikely – no suitable habitat

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Tringa brevipes	Grey-tailed Tattler	Ρ	C,J,K	Summer migrant to Australia. In NSW, distributed along most of the coast from the Qld border, south to Tilba Lake. More heavily distributed along coastal regions north of Sydney.	Sheltered coasts with reefs and rock platforms or intertidal mudflats; intertidal rocky, coral or stony reefs; shores of rock, shingle, gravel or shells; embayments, estuaries and coastal lagoons; lagoons and lakes; and ponds in sewage farms and salt works.	Unlikely – no suitable habitat
Tringa glareola	Wood Sandpiper	Ρ	C,J,K	Summer migrant to Australia. In NSW, recorded east of the Great Divide, from Stratheden and Casino, south to Nowra and elsewhere, mostly from the Riverina, but also from the Upper and Lower Western Regions.	Well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes; inundated grasslands; floodplains; irrigated crops; sewage ponds; reservoirs; large farm dams; bore drains; rarely brackish wetlands and saltmarsh.	Unlikely

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Tringa nebularia	Common Greenshank	Ρ	C,J,K	Summer migrant to Australia. Recorded in most coastal regions of NSW; also widespread west of the Great Dividing Range, especially between the Lachlan and Murray Rivers and the Darling River drainage basin, including the Macquarie Marshes, and north- west regions.	Terrestrial wetlands (swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans, saltflats, sewage farms and saltworks dams, inundated rice crops and bores) and sheltered coastal habitats (mudflats, saltmarsh, mangroves, embayments, harbours, river estuaries, deltas, lagoons, tidal pools, rock-flats and rock platforms).	Unlikely
Tringa stagnatilis	Marsh Sandpiper	Ρ	C,J,K	Summer migrant to Australia. Recorded in all regions of NSW but especially the central and south coasts and (inland) on the western slopes of Great Divide and western plains.	Swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, intertidal mudflats, sewage farms and saltworks, reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes.	Potential, areas near Floodplain Swamp Forest
Tyto novaehollandiae	Masked Owl	V		Recorded over approximately 90% of NSW, excluding the most arid north-western corner. Most abundant on the coast but extends to the western plains.	Dry eucalypt forests and woodlands from sea level to 1100 m.	Unlikely

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Tyto tenebricosa	Sooty Owl	V		Occupies the easternmost one- eighth of NSW, occurring on the coast, coastal escarpment and eastern tablelands.	Dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests.	Unlikely
Xenus cinereus	Terek Sandpiper	V	C,J,K	A rare migrant to the eastern and southern Australian coasts. The two main sites in NSW are the Richmond River estuary and the Hunter River estuary.	Mudbanks and sandbanks near mangroves, rocky pools and reefs, and occasionally up to 10 km inland around brackish pools.	Unlikely, no suitable habitat
Amphibians						
Heleioporus australiacus	Giant Burrowing Frog	V	V	South eastern NSW and Victoria, in two distinct populations: a northern population in the sandstone geology of the Sydney Basin as far south as Ulladulla, and a southern population occurring from north of Narooma through to Walhalla, Victoria.	Heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based.	Unlikely – no suitable habitat
Litoria aurea	Green and Golden Bell Frog	E1	V	Since 1990, recorded from ~50 scattered sites within its former range in NSW, from the north coast near Brunswick Heads, south along the coast to Victoria. Records exist west to Bathurst, Tumut and the ACT region.	Marshes, dams and stream- sides, particularly those containing Typha spp. (bullrushes) or <i>Eleocharis</i> spp. (spikerushes). Some populations occur in highly disturbed areas.	Unlikely – no suitable habitat
Litoria littlejohni	Littlejohn's Tree Frog	V	V	Plateaus and eastern slopes of the Great Dividing Range from	Breeding habitat is the upper reaches of permanent streams	Unlikely – no suitable habitat

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Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
				Watagan State Forest south to Buchan in Victoria. The species	and perched swamps.	
				has not been recorded in southern NSW within the last decade.		
Reptiles	I					I
Hoplocephalus bungaroides	Broad-headed Snake	E1	V	Largely confined to Triassic and Permian sandstones within the coast and ranges in an area within approximately 250 km of Sydney.	Dry and wet sclerophyll forests, riverine forests, coastal heath swamps, rocky outcrops, heaths, grassy woodlands.	No
Mammals		•	-			
Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern)	E1	E	Found in south-eastern NSW, east of the Great Dividing Range south from the Hawkesbury River.	Heath or open forest with a heathy understorey on sandy or friable soils.	Unlikely – no suitable habitat
Potorous tridactylus	Long-nosed Potoroo	V	V	In NSW it is generally restricted to coastal heaths and forests east of the Great Dividing Range, with an annual rainfall exceeding 760 mm.	Coastal heaths and dry and wet sclerophyll forests.	Unlikely
Pseudomys novaehollandiae	New Holland Mouse	Ρ	V	Fragmented distribution across eastern NSW.	Open heathlands, woodlands and forests with a heathland understorey, vegetated sand dunes.	Unlikely – no suitable habitat

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Mormopterus norfolkensis	Eastern Freetail-bat	V		Found along the east coast from south Qld to southern NSW.	Dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range.	Potential
Saccolaimus flaviventris	Yellow-bellied Sheathtail- bat	V		There are scattered records of this species across the New England Tablelands and North West Slopes. Rare visitor in late summer and autumn to south- western NSW.	Almost all habitats, including wet and dry sclerophyll forest, open woodland, open country, mallee, rainforests, heathland and waterbodies.	Potential
Petaurus australis	Yellow-bellied Glider	V		Along the eastern coast to the western slopes of the Great Dividing Range, from southern Qld to Victoria.	Tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils.	Unlikely – no suitable habitat
Pteropus poliocephalus	Grey-headed Flying-fox	V	V	Along the eastern coast of Australia, from Bundaberg in Qld to Melbourne in Victoria.	Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	Potential

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Chalinolobus dwyeri	Large-eared Pied Bat	V	V	Recorded from Rockhampton in Qld south to Ulladulla in NSW. Largest concentrations of populations occur in the sandstone escarpments of the Sydney basin and the NSW north-west slopes.	Wet and dry sclerophyll forests, Cypress Pine dominated forest, woodland, sub-alpine woodland, edges of rainforests and sandstone outcrop country.	Potential
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V		In NSW it occurs on both sides of the Great Dividing Range, from the coast inland to Moree, Dubbo and Wagga Wagga.	Rainforest, wet and dry sclerophyll forest, monsoon forest, open woodland, paperbark forests and open grassland.	Potential
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V		Extend to the western slopes of the Great Dividing Range.	Tall (greater than 20m) moist habitats.	Unlikely – no suitable habitat
Myotis macropus	Southern Myotis	V		In NSW, found in the coastal band. It is rarely found more than 100 km inland, except along major rivers.	Foraging habitat is waterbodies (including streams, or lakes or reservoirs) and fringing areas of vegetation up to 20 m.	Potential, dams on site
Scoteanax rueppelii	Greater Broad-nosed Bat	V		Both sides of the great divide, from the Atherton Tableland in Qld to north-eastern Victoria, mainly along river systems and gullies. In NSW it is widespread on the New England Tablelands.	Woodland, moist and dry eucalypt forest and rainforest.	Potential

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution	Habitat	Likelihood of occurrence
Dasyurus maculatus	Spotted-tailed Quoll	v	E	Found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Qld.	Rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	Unlikely
Dasyurus viverrinus	Eastern Quoll	E1		No recent sightings of this species in NSW. m	Dry sclerophyll forest, scrub, heathland and cultivated land.	No
Phascolarctos cinereus	Koala	V	V	In NSW it mainly occurs on the central and north coasts with some populations in the west of the Great Dividing Range. There are sparse and possibly disjunct populations in the Bega District, and at several sites on the southern tablelands.	Eucalypt woodlands and forests.	Unlikely, no suitable habitat – broad areas of open grassland

Disclaimer: Data extracted from the Atlas of NSW Wildlife and DoE Protected Matters Report are only indicative and cannot be considered a comprehensive inventory. Marine and pelagic species identified within the above database searches have not been included in this table, since they are considered unlikely to occur within the site boundary due to the absence of marine habitat.

CE = Critically Endangered; E = Endangered; E2 = Endangered Population; V = Vulnerable; M = Migratory.