

Biosis field investigation - Marsdenia and EBSF

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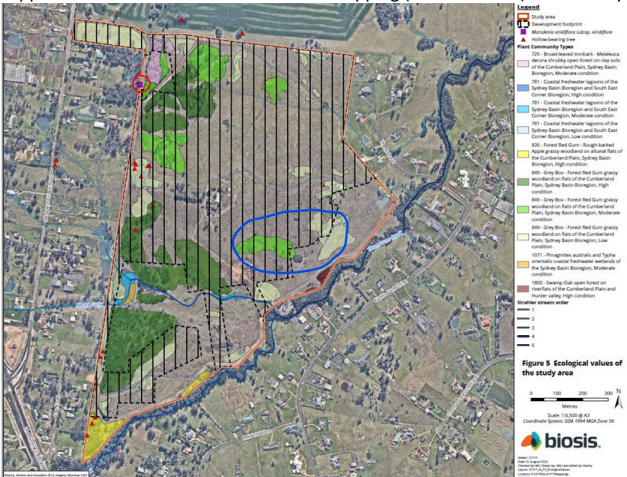
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Hi Alex and Jason,

See summary below regarding the field investigation undertaken by Biosis on 18 April 2024. In short *Marsdenia viridiflora* subsp. *viridiflora* is still present on site with 5-6 individuals having their stem and root system on the project side of the fence. Secondly, it is our opinion that Elderslie Banksia Scrub Forest is not present. Our previous mapping of Cumberland Plain Woodland is accurate. A more detailed response is provided below.

Summary of field investigation

On Thursday 18 April 2024, Biosis undertook a field investigation to support the Bradfield Biodiversity Strategy and Impact Assessment project. The field investigation was completed in order to confirm the location/presence of the previously identified population of *Marsdenia viridiflora* subsp. *viridiflora* (circled in red) and to collect data to support the Cumberland Plain Woodland mapping (circled in blue) in the study area below.



Results of vegetation survey

The moderate condition patch of Cumberland Plain Woodland was dominated by Tick Bush *Kunzea ambigua* in the mid story, with scattered Native Blackthorn *Bursaria spinosa* also present in moderate cover. *Dillwynia seiberi* and Broome Bitter Pea *Daviesaea genistifolia* were also scattered throughout the mid story, along with isolated occurrences of *Acacia melanoxylon* Blackwood. The canopy was very sparse in this area, and was comprised of scattered Grey Box *Eucalyptus moluccana* and Forest Red Gum *Eucalyptus tereticornis*. The remainder of the understorey was comprised of Weeping Grass *Microlaena stipoides* var. *stipoides*, Kangaroo Grass *Themeda triandra* and Threeawn Speargrass *Aristida vagans*, as well as species such as Common Couch *Cynodon dactylon*, Indian Pennywort *Centella asiatica*, Kidney Weed *Dichondra repens*, Variable Glycine *Glycine tabacina*, *Bossiaea buxifolia*, Rock Fern *Cheilanthes seiberi*, *Oxalis perennans* and Raspwort *Gococarpus teucriodes* (see photos below). The area was moderately weedy, with a number of exotic grasses and other groundcover species dominating parts of the understorey.

The low condition vegetation was fairly similar in terms of species composition, with some isolated occurrences of species such as Swamp Oak *Casuarina glauca* and Willow Bottlebrush *Callistemon salignus* on the edge of the patch. A very small area in the northeastern portion of this low condition patch was comprised of a couple of *Angophora* over a patch of *Leptospermum polygalifolium*. The groundcover in this area was similar to the moderate patch of Cumberland Plain Woodland, comprised of some Kangaroo Grass, Kidney Weed and Weeping Grass, as well as moderate to high cover of weed species. This patch also contained a significant amount of *Angophora* and *Eucalyptus* regeneration.

Based on the above observations and data collected during the field survey, the vegetation meets the final determination for Cumberland Plain Woodland due to the presence of key diagnostic species across all strata. In addition, the soil type and landscape position are consistent with the description of this Critically Endangered Ecological Community (CEEC) in the final determination (OEH, 2019).

It is unlikely that the vegetation in this portion of the study area is consistent with the Elderslie Banksia Scrub Forest CEEC. The Elderslie Banksia Scrub Forest is characterised by a canopy of Coast Banksia *Banksia integrifolia* in drier areas, as well as occurrences of *Angophora subvelutina* and Corkwood *Duboisia myoporoides*. Other species include Daphne Heath *Brachyloma daphnoides*, Hairly Clerodendrum *Clerodendrum tomentosum*, Common Bracken *Pteridium esculentum*, Slender Rice Flower *Pimelea linifolia*, *Dillwynia glaberrima*, Wedding Bush *Ricinocarpus pinifolius*, Wedge Guinea Flower *Hibbertia diffusa*, Tick Bush, Native Cherry *Exocarpos cupressiformis*, Narrow-leaved Geebung *Persoonia linearis* and Blue Flax-Lily *Dianella revoluta* (NSW Scientific Committee, 2015). Bangalay *Eucalyptus botryoides* is the characteristic canopy species in wetter areas, over an understorey of Shrubby Platysace *Platysace lanceolata*, *Aotus eroicoides*, Common Bracken and Blady Grass *Imperata cylindrica*. Although species of *Angophora* and a handful of other species found in the Elderslie Banksia Scrub Forest community were present within the study area, these species may also occur in the Cumberland Plain Woodland Community, as species composition may be influenced by the size of the study area, disturbance history, recent rainfall or drought conditions. The total species list of the Cumberland Plain Woodland CEEC is larger than the list given in the final determination, with many species present in rare occasions or in low abundance. Overall, the species assemblage was found to be more consistent with the Cumberland Plain Woodland CEEC, as key diagnostic canopy species associated with the Elderslie Banksia Scrub Forest community, including Coast Banksia, was absent from the study area. In addition, the Elderslie Banksia Scrub Forest grows on sandy soils, and has predominantly been recorded in the Camden Local Government Area. However, this part of the study area was comprised of largely clay soils, which is not consistent with the final determination for Elderslie Banksia Scrub Forest (NSW Scientific Committee, 2015).

Photos supporting vegetation survey



Photo 1 Moderate condition vegetation



Photo 2 Moderate condition vegetation



Photo 3 Low condition vegetation



Photo 4 Low condition vegetation

Results of threatened species survey

Biosis also surveyed the area where Native Pear *Marsdenia viridiflora* subsp. *viridiflora* was previously found in the study area. Based on observations in the field, Native Pear was still present in the portion of the study area circled in red on the figure above. Approximately 12 above ground individuals including some young juveniles were recorded (although they may all be connected by a tuber). Each individual was marked with flagging tape, where possible (see photos below).

Photos of *Marsdenia viridiflora* subsp. *viridiflora*



Kind regards,

Matt

Matthew Hyde

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Leaders in Ecology, Heritage and Environmental Approvals

Biosis acknowledges the Aboriginal and Torres Strait Islander people as Traditional Custodians of the country on which we live and work.

We pay our respects to the Traditional Custodians and Elders past, present and future, and honour their connection to the land and ongoing contribution to society.

7/3/24, 11:18 AM

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