# Western Sydney Strategic Assessment

## HABITAT CRITIERIA FOR MAPPING THREATENED SPECIES OCCURRENCE

## Introduction

An integral part of the Western Sydney strategic assessment will be the analysis of conservation benefit and development impact of the Cumberland Plain Conservation Plan (CPCP) on threatened species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the NSW *Biodiversity Conservation Act 2016* (BC Act). The CPCP covers two broad types of development: Priority Growth Areas (PGAs) and transport corridors. The transport corridors occur in various parts of the Cumberland Plain and are broadly defined.

The scope of the strategic assessment comprises assessments under the:

* Strategic assessment provisions of the EPBC Act for the PGAs and transport corridors
* Biocertification provisions of the BC Act for the PGAs only.

A single assessment report will be prepared that brings these two assessments together in an integrated way.

## Purpose of this report

This document supports the methodology for mapping threatened species and provides the habitat criteria for mapping threatened species of the GAs and Cumberland Plain. A summary of criteria for use by GIS consultants and ecologists to predict the potential occurrence of species is provided as Table 1, at the end of this document. The information provided below is additional ecological information on each species, which could be used for further mapping refinement and expert opinion, where necessary.

## Birds

### Barking Owl *Ninox connivens*

| Categorisation | Relevance to species | Note |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion; |
| Distribution | Entirety of NSW | The Barking Owl is found throughout continental Australia except for the central arid regions. |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Many populations crashed as woodland on fertile soils was cleared over the past century, leaving linear riparian strips of remnant trees as the last inhabitable areas. |
| Occurrence in open and wooded habitats and fragmented habitats | Yes | Inhabits woodland and open forest, including fragmented remnants and partly cleared farmland. It is flexible in its habitat use, and hunting can extend in to closed forest and more open areas. |
| Home range | 2000 – 6000 ha | Monogamous pairs hunt over as much as 6000 ha, with 2000 ha being more typical in NSW habitats. |
| Geographical restrictions |  | Not mentioned in literature |
| Elevation | Limit of 1000 m asl (IUCN 2017) |  |

### Powerful Owl *Ninox strenua*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1253; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 877 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion |
| Distribution | Eastern half of NSW | The Powerful Owl is endemic to eastern and south-eastern Australia. 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 suggesting occupancy prior to land clearing. |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Roosts in groves of dense mid-canopy trees or tall shrubs in sheltered gullies, typically on wide creek flats and at the heads of minor drainage lines, but also adjacent to cliff faces and below dry waterfalls. Nests in old hollow eucalypts in unlogged, unburnt gullies and lower slopes within 100 m of streams or minor drainage lines. |
| Occurrence in open and wooded habitats and fragmented habitats | Forested areas | Roosts by day in the leafy canopy of trees or tall shrubs. Forages by  hunting from perches within the forest or woodland canopy. |
| Home range | 4000 ha | In good habitats 400 ha can support a pair; where hollow trees and prey have been depleted the owls need up to 4000 ha. Home range has been estimated as 300-1500 ha according to habitat productivity; measured as 800 ha for one nonbreeding individual and 350 ha for one breeding female closely associated with the nest tree and new fledgling. |
| Geographical restrictions |  | Not mentioned in literature |
| Elevation | Higher elevation | Occurs in higher elevations, such as the tableland forests. |

### Bush Stone-curlew *Burhinus grallarius*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1395; 724; 725; 830; 835; 849; 850; 883; 774 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion |
| Distribution | Lower elevation grassy woodlands | In general, Bush Stone-curlews are not found on the escarpments but in lower elevation grassy woodlands of the coast or west of  the divide throughout the sheep-wheat belt. |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Foraging can occur over a wide area, including irrigated paddocks, grasslands, woodlands, domestic gardens, saltmarsh, mangroves, and playing fields. |
| Occurrence in open and wooded habitats and fragmented habitats | Open grassy areas and woodlands | The nest site is typically in or near the edge of open grassy woodland or within a cleared paddock where there is good visibility across the surrounding lands. |
| Home range | 337 ha | Resident breeding birds remained with their partner and in their home range year round, and had home ranges of 26-64 ha. Mobile breeding Bush Stone-curlews exhibited different behaviour to resident breeding birds during the non-breeding season. During this time, this group flew long foraging distances, used communal roost sites and had large home ranges of up to 337 ha. |
| Geographical restrictions | Not mentioned in literature. | The presence and abundance of predators or other disturbances reduces the suitability of habitat for particular activities, especially nesting. |
| Elevation | Below 300 m elevation | Bush Stone-curlews appear to be associated with lower elevations in fairly flat or rolling country (Johnson and Baker-Gabb 1994). A study of 167 sites in northern Victoria found that virtually all sites were below 300 m elevation, and that 59% were below 150 m |

### Little Eagle *Hieraaetus morphnoides*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1253; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 877 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion;  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion |
| Distribution | Whole of NSW |  |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Occupies open eucalypt forest, woodland or open woodland. She-oak or Acacia woodlands and riparian woodlands of interior NSW are also used. |
| Occurrence in open and wooded habitats and fragmented habitats | Forested areas |  |
| Home range | Less than 5 ha. |  |
| Geographical restrictions |  | Not mentioned in literature |
| Elevation | All throughout range |  |

### Swift Parrot *Lathamus discolor*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1253; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 877 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion;  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion; |
| Distribution | Eastern half of NSW | In New South Wales, Swift Parrots forage in forests and woodlands throughout the coastal and western slopes regions each year. |
| Occurrence along creeklines/waterways/riparian corridors | Yes |  |
| Occurrence in open and wooded habitats and fragmented habitats | Forested areas or paddock trees | On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects. Much of the habitat used by Swift Parrots in agricultural landscapes is forest remnants and isolated or scattered paddock trees. |
| Home range | Species is migratory | This species travels from Tasmania to the mainland each year and can migrate throughout the eastern half of NSW. |
| Geographical restrictions |  | Not mentioned in literature |
| Elevation | All within range |  |

### Gang-gang Cockatoo *Callocephalon fimbriatum*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 877 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion;  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion |
| Distribution | Southern and central-eastern New South Wales | Will occur in the southern PGAs (Wilton, Appin - Gilead) as sufficient connectivity occurs and cover of vegetation high enough |
| Occurrence along creeklines/waterways/riparian corridors | Yes |  |
| Occurrence in open and wooded habitats and fragmented habitats | Wooded habitats |  |
| Home range | Less than 5 ha |  |
| Geographical restrictions |  | Not mentioned in literature. |
| Elevation | High and low elevations | In spring and summer, generally found in tall mountain forests and woodlands. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands. |

### Glossy Black-Cockatoo *Calyptorhynchus lathami*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1081; 1181; 1253; 1292; 1395; 774 | 1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion |
| Distribution | Central – eastern NSW | In NSW The Glossy Black-Cockatoo is distributed from the coast to the tablelands, with populations also on the western slopes and plaint. Some areas with potential feed trees (casuarinas) including one in the Wilton PGA that was identified during a site visit. |
| Occurrence along creeklines/waterways/riparian corridors | Yes |  |
| Occurrence in open and wooded habitats and fragmented habitats | Wooded habitats | Inhabits eucalypt open forest and woodland with hollow-bearing trees and a midstorey of sheoaks. Although the Glossy Black-Cockatoo is highly mobile and can disperse tens of kilometres, or commute up to 12 km between the nest and feeding areas, most movements appear to be local. |
| Home range | Less than 5 ha | Glossy Black-Cockatoos breed semi-colonially and pairs defend only the immediate area of the nest hollow, ranging widely to forage. |
| Geographical restrictions |  | Notmentioned in literature |
| Elevation |  | Notmentioned in literature |

### Regent Honeyeater *Anthochaera phrygia*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1081, 1181, 1292, 1395, 1789, 1800, 724, 725, 830, 835, 849, 850, 883, 774, 941 | 1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  1789 Smooth-barked Apple - Blackbutt - Red Bloodwood open forest in enriched sandstone gullies of the western Woronora plateau;  1800 Swamp Oak open forest on riverflats of the Cumberland Plain and Hunter valley;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion  941 Mountain Blue Gum - Thin-leaved Stringybark open forest on river flat alluvium in the Sydney Basin Bioregion |
| Distribution | Eastern half of NSW | The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. |
| Occurrence along creeklines/waterways/riparian corridors | Yes | The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River She oak. Most records of Regent Honeyeaters come from box-ironbark eucalypt associations, where the species seems to prefer more fertile sites with higher soil water content, including creek flats, broad river valleys and lower slopes. |
| Occurrence in open and wooded habitats and fragmented habitats | All | Woodlands, open forests and fragmented habitats. |
| Home range | Less than 5 ha |  |
| Geographical restrictions | None | Highly mobile and migratory species |
| Elevation |  | Not mentioned in literature |

### Square-tailed Kite *Lophoictinia isura*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1253; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion |
| Distribution | Entirety of NSW |  |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses. |
| Occurrence in open and wooded habitats and fragmented habitats | All | Woodlands, Open forests and fragmented. |
| Home range |  | Appears to occupy large hunting ranges of more than 100 square km’s. In eastern NSW, neighbouring nests of the Square-tailed Kite are about 13 km apart, with a density of one pair per 170 km2, and home range of roughly 50 km2. |
| Geographical restrictions |  | Not mentioned in literature |
| Elevation |  | Not mentioned in literature |

## Mammals

### Little Bentwing-bat *Miniopterus australis*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1253; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 877 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion;  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion |
| Distribution | Along the east coast of NSW | Occurs from Cape York to northern NSW. Recorded in the PGAs. Habitat in the steep slopes adjacent and within. Species forages into relictual cover areas (very open vegetation) |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. Generally found in well-timbered areas. |
| Occurrence in open and wooded habitats and fragmented habitats | Yes | Forage by flying between shrub and canopy layers of densely wooded areas. |
| Home range |  |  |
| Geographical restrictions | None | Roost in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day. |
| Elevation |  | Not mentioned in literature |

### Eastern Bentwing-bat *Miniopterus schreibersii oceanensis*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1253; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 877 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion;  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion |
| Distribution | Eastern half of NSW | Predominately recorded east of the great dividing range in NSW. Recorded in the PGAs. Habitat in the steep slopes adjacent and within. Species forages into relictual cover areas (very open vegetation). |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Roosts in storm water tunnels. |
| Occurrence in open and wooded habitats and fragmented habitats | Wooded habitats | Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Hunt in forested areas, catching moths and other flying insects above the tree tops. |
| Home range |  | Marked females have been recorded traveling up to 65 km in one night to forage. |
| Geographical restrictions |  | Not mentioned in literature |
| Elevation |  | Not mentioned in literature |

### Southern Myotis *Myotis macropus*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067; 1081; 1181; 1253; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 877 | 1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion;  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion;  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion;  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion;  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion;  724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion;  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion;  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion;  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion;  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion;  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion;  774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion;  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion |
| Distribution | Eastern NSW | Primarily coastal. In southern NSW range extends west to the boarder. |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Species has a strong association with streams and waterways. Forage along waterways. |
| Occurrence in open and wooded habitats and fragmented habitats | Vegetated streams | Strong association with streams particularly in areas that are vegetated rather than cleared. Roost near waterways in caves, hollows or among vegetation. |
| Home range |  |  |
| Geographical restrictions | none | Not specified in literature. |
| Elevation | Low elevations | Most frequently at low elevations and in flat or undulating country. |

### Large-eared Pied Bat *Chalinolobus dwyeri*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1067, 1081, 1083, 1181, 1292, 1395, 1789, 1790, 1800, 1841, 724, 725, 830, 835, 849, 850, 883, 941, 1105, 1292 | 724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion Complete  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion Complete  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1105 River Oak open forest of major streams, Sydney Basin Bioregion and South East Corner Bioregion  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1800 Swamp Oak open forest on river flats of the Cumberland Plain and Hunter valley  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion  941 Mountain Blue Gum - Thin-leaved Stringybark open forest on river flat alluvium in the Sydney Basin Bioregion |
| Distribution | Eastern NSW | From Rockhampton in Queensland south to Bungonia in the NSW Southern Highlands. Generally rare with a very patchy distribution in NSW. There are scattered records from the New England Tablelands and North West Slopes. |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Found in well-timbered areas containing gullies. |
| Occurrence in open and wooded habitats and fragmented habitats | Forests and open forests | Found mainly in areas with extensive cliffs and caves. Most commonly recorded from dry sclerophyll forest and woodlands but also occur in sub-alpine woodland. |
| Home range |  |  |
| Geographical restrictions | None | Not specified in literature |
| Elevation | Low to mid-elevation | Frequenting low to mid-elevation dry open forest and woodland close to these features. |

## Molluscs

### Cumberland Plain Land Snail *Meridolum corneovirens*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 724, 725, 830, 835, 849, 850, 883, 1395, 1067, 1790, 806, 807, 808 | 724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion  806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  808 Derived shrubland on Tertiary Gravels of the Cumberland Plain  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion  958 Narrow-leaved Apple - Hard-leaved Scribbly Gum heathy woodland on sand at Agnes Banks, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion  1790 Red Bloodwood - Grey Gum - Stringybark open forest on enriched sandstone ridges of the western Woronora plateau and lower Blue Mountains |
| Distribution | Central - Coastal NSW | Lives in small areas on the Cumberland Plain west of Sydney, from Richmond and Windsor south to Picton and from Liverpool west to the Hawkesbury and Nepean Rivers at the base of the Blue Mountains. known from over 100 different locations, but not all are currently occupied, and they are usually isolated from each other as a result of land use patterns |
| Occurrence along creeklines/waterways/riparian corridors | Yes | Can occur within riparian areas associated with Grey Box woodlands. |
| Occurrence in open and wooded habitats and fragmented habitats | All | Primarily inhabits Cumberland Plain Woodland, a grassy, open woodland with occasional dense patches of shrubs. It is also known from Shale Gravel Transition Forests, Castlereagh Swamp Woodlands and the margins of River-flat Eucalypt Forest. |
| Home range | Yes | Less than 5 ha |
| Geographical restrictions | Yes | Barriers to movement such as roads, cliffs. |
| Elevation |  | Not specified in literature |

## Flora

### Bynoe’s Wattle *Acacia bynoeana*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 774, 1253, 662, 808, 1826, 849, 1622, 883, 958, 1395, 1623, 1629, 1067, 1081, 1787, 1083, 1181, 1250, 1292. | 774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion;  1253 Sydney Peppermint - White Stringybark - Smooth-barked Apple forest on shale outcrops, Sydney Basin Bioregion;  662 Banksia - Red Bloodwood - Hard-leaved Scribbly Gum heathy open woodland on sandstone plateaux, southern Sydney Basin Bioregion  808 Derived shrubland on Tertiary Gravels of the Cumberland Plain  1826 Dwarf Apple - Banksia - Tea-tree - Hakea heath-woodland on the hinterland sandstone plateaus from southern Sydney to Mangrove Mountain  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  1622 Grey Gum - Smooth-barked Apple - Blue-leaved Stringybark shrub - grass open forest on coastal ranges of the Sydney Basin  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion  958 Narrow-leaved Apple - Hard-leaved Scribbly Gum heathy woodland on sand at Agnes Banks, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1623 Narrow-leaved Ironbark - Yellow bloodwood - Rough-barked Apple shrubby open forest on sandstone ranges of the Sydney Basin  1629 Narrow-leaved Stringybark - Grey Gum shrubby open forest on sandstone ranges of the Sydney Basin  1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1787 Red Bloodwood - Scribbly Gum - Stringybark open forest on sandstone ridges along the western side of the Woronora and Hornsby plateaus  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1250 Sydney Peppermint - Smooth-barked Apple - Red Bloodwood shrubby open forest on slopes of moist sandstone gullies, eastern Sydney Basin Bioregion  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion |
| Distribution | Central - eastern NSW | Recorded from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains. The species is currently known from about 30 locations, with small populations of 1-5 plants at most locations. |
| Vegetation structure preference | Yes | Occurs in open heath or dry sclerophyll forest. |
| Geological or soils associations | Sandy soils | Sandy soils. |
| Commonly associated flora species | Yes | Red Bloodwood, Scribbly Gum, Parramatta Red Gum, Saw Banksia and Narrow-leaved Apple. |
| Occurrence near disturbance | Yes | Slightly disturbed sites such as trail margins, edges of roadside spoil mounds and in recently burnt patches. |
| Geographical restrictions | None | Not specified in literature. |
| Elevation | Low elevations | Most frequently at low elevations and in flat or undulating country. |

### Downy Wattle *Acacia pubescens*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 724, 725, 806, 807, 808, 849, 850, 883, 99997, 1395, 1081, 1083, 1181 | 724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion  806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  808 Derived shrubland on Tertiary Gravels of the Cumberland Plain  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion  99997 Highly disturbed areas - road verges, table drains, road embankments, ploughed paddocks  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion |
| Distribution | Localised within the Sydney Basin | Highest recorded density around the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. |
| Vegetation structure preference | Yes | Occurs in open woodland and forest, most commonly associated with Cooks River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and Cumberland Plain Woodland. |
| Geological or soils associations | Yes | Alluvium, shales and at the intergrades between shales and sandstones. The soils are characteristically gravely soils, often with ironstone present. |
| Commonly associated flora species | Yes | *Melaleuca nodosa, M. styphelioides, Angophora bakeri, Ozothamnus diosmifolius, Acacia parramattensis, Dillwynia sieberi, Pultenaea villosa, Bursaria spinosa, Acacia falcata, Exocarpos cupressiformis, Themeda australis, Lomandra longifolia, Microlaena stipoides, Aristida vagans, Austrodanthonia tenuior, Dianella longifolia, and Lepidosperma laterale* and others from characteristic communities. |
| Occurrence near disturbance | Yes | Suckering where slashing or fire has occurred. |
| Geographical restrictions | Yes | Localised to Sydney Basin. |
| Elevation | Yes | 0 - 650 metres a.s.l. |

### White-flowered Wax Plant *Cynanchum elegans*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 806, 807, 830, 835, 849, 850, 877, 99993 | 806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  877 Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion  99993 Rocky cliffs, major rock outcrops etc. |
| Distribution | Central - coastal NSW | Restricted to eastern NSW where it is distributed from Brunswick Heads on the north coast to Gerroa in the Illawarra region. The species has been recorded as far west as Merriwa in the upper Hunter River valley. |
| Vegetation structure preference | Yes | Usually occurs on the edge of dry rainforest vegetation. Other relevant associated vegetation types include Forest Red Gum *Eucalyptus tereticornis* aligned open forest and woodland and Spotted Gum *Corymbia maculata* aligned open forest and woodland. |
| Geological or soils associations | Yes | Recorded on basalt, metasediments, conglomerate, deep coastal sands and sandstone. |
| Commonly associated flora species | Yes | As per vegetation communities above. |
| Occurrence near disturbance | Yes | Suckering where slashing or grazing has occurred. Suckers naturally also. |
| Geographical restrictions | Yes | Localised to central coastal NSW. |
| Elevation | Unknown. | Not specified in literature. |

### *Dillwynia tenuifolia*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 724, 725, 806, 807, 808, 849, 883, 1395, 1067, 1081, 1083 | 724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion  806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  808 Derived shrubland on Tertiary Gravels of the Cumberland Plain  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion |
| Distribution | Localised in the Sydney Basin. | The core distribution is the Cumberland Plain from Windsor and Penrith east to Dean Park near Colebee. Other populations in western Sydney are recorded from Voyager Point and Kemps Creek in the Liverpool LGA, Luddenham in the Penrith LGA and South Maroota in the Baulkham Hills Shire. |
| Vegetation structure preference | Yes | Scrubby/dry heath areas within Castlereagh Ironbark Forest and Shale Gravel Transition Forest |
| Geological or soils associations | Yes | Tertiary alluvium or laterised clays, and transition areas between shale and sandstone. . |
| Commonly associated flora species | Yes | *Eucalyptus fibrosa* is usually the dominant canopy species. *Eucalyptus globoidea, E. longifolia, E. parramattensis, E. sclerophylla* and *E. sideroxylon* may also be present or codominant, with *Melaleuca decora* frequently forming a secondary canopy layer. Associated species may include *Allocasuarina littoralis, Angophora bakeri, Aristida* spp. *Banksia spinulosa, Cryptandra spp. Daviesia ulicifolia, Entolasia stricta, Hakea sericea, Lissanthe strigosa, Melaleuca nodosa, Ozothamnus diosmifolius* and *Themeda australis.* *D. tenuifolia* is often found in association with other threatened species such as *Dodonaea falcata, Grevillea juniperina, Micromyrtus minutiflora, Pultenaea parviflora* and *Styphelia laeta*. |
| Response to/ occurrence near disturbance | Yes | Recruitment following fire. |
| Geographical restrictions | Yes | Localised to Sydney Basin. |
| Elevation | Unknown. | Not specified in literature. |

### *Epacris purpurascens* var. *purpurascens*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 725, 1395, 1081, 1083, 1786, 1181, 1841, 1292, 1319 | 725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1786 Red Bloodwood - Silvertop Ash - Stringybark open forest on ironstone in the Sydney region Complete  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1841 Smooth-barked Apple - Turpentine - Blackbutt tall open forest on enriched sandstone slopes and gullies of the Sydney region Complete  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion  1319 White Stringybark - Grey Gum grassy forest on shale caps of the Woronora Plateau, Sydney Basin Bioregion |
| Distribution | Localised. | Gosford in the north, to Narrabeen in the east, Silverdale in the west and Avon Dam vicinity in the South. |
| Vegetation structure preference | Yes | Open sclerophyll forests. |
| Geological or soils associations | Yes | Prefers relatively open areas, habitat includes drainage lines or depressions, skeletal soil areas such as sandstone outcroppings and areas possessing indurated laterite gravels or rock fragments. |
| Commonly associated flora species | No | Not listed in literature. |
| Response to/ occurrence near disturbance | Yes | Killed by fire, recruitment by seed following fire. No preference for disturbed areas. |
| Geographical restrictions | Yes | Localised to Central coast and Sydney Basin. |
| Elevation | Unknown. | Not specified in literature. |

### Camden White Gum *Eucalyptus benthamii*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 725, 1395, 1081, 1083, 1786, 1181, 1841, 1292, 1319, 774, 835, 849, 860, 94, 1105 | 774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1786 Red Bloodwood - Silvertop Ash - Stringybark open forest on ironstone in the Sydney region Complete  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1841 Smooth-barked Apple - Turpentine - Blackbutt tall open forest on enriched sandstone slopes and gullies of the Sydney region Complete  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion  1319 White Stringybark - Grey Gum grassy forest on shale caps of the Woronora Plateau, Sydney Basin Bioregion  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  860 Grey Gum - Broad-leaved Ironbark dry open forest on gorge slopes of the Blue Mountains, Sydney Basin Bioregion  941 Mountain Blue Gum - Thin-leaved Stringybark open forest on river flat alluvium in the Sydney Basin Bioregion  1105 River Oak open forest of major streams, Sydney Basin Bioregion and South East Corner Bioregion |
| Distribution | Localised. | Occurs on the alluvial flats of the Nepean River and its tributaries. There are two major subpopulations: in the Kedumba Valley of the Blue Mountains National Park and at Bents Basin State Recreation Area. Several trees are scattered along the Nepean River around Camden and Cobbitty, with a further stand at Werriberri (Monkey) Creek in The Oaks. At least five trees occur on the Nattai River in Nattai National Park. |
| Vegetation structure preference | Yes | Open forest. |
| Geological or soils associations | Yes | Requires a combination of deep alluvial sands and a flooding regime to recruit seedlings. |
| Commonly associated flora species | Yes | *Eucalyptus elata*, *E. baueriana*, *E. amplifolia*, *E. deanei* and *Angophora subvelutina*. Understorey species include *Bursaria spinosa*, *Pteridium esculentum* and a wide variety of agricultural weeds. The Kedumba Valley site lists *E. crebra, E. deanei, E. punctata, Leptospermum flavescens, Acacia filicifolia* and *Pteridium esculentum* among its associated species. |
| Response to/ occurrence near disturbance | Yes | New plant establishment most successful on bare silt deposits. |
| Geographical restrictions | Yes | Localised to Cumberland Plain and Blue Mountains. |
| Elevation | Yes | 30 – 750 (av. 30-600) m.a.s.l. |

### Bauer's Midge Orchid *Genoplesium baueri*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 725, 1395, 1081, 1083, 1786, 1181, 1841, 1292, 1319, 1824, 1083, 1789, | 1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1786 Red Bloodwood - Silvertop Ash - Stringybark open forest on ironstone in the Sydney region Complete  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1319 White Stringybark - Grey Gum grassy forest on shale caps of the Woronora Plateau, Sydney Basin Bioregion  1841 Smooth-barked Apple - Turpentine - Blackbutt tall open forest on enriched sandstone slopes and gullies of the Sydney region Complete  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion  1824 Mallee - Banksia - Tea-tree - Hakea heath-woodland of the coastal sandstone plateaus of the Sydney basin  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1789 Smooth-barked Apple - Blackbutt - Red Bloodwood open forest in enriched sandstone gullies of the western Woronora plateau |
| Distribution | Coastal NSW. | Recorded between Ulladulla and Port Stephens. Occur as isolated populations. |
| Vegetation structure preference | Yes | The species usually grows in heathland to shrubby woodland on sands or sandy loams or open forest, shrubby forest and heathy forest on well-drained sandy and gravelly soils. Moss gardens over massive sandstone are also listed. |
| Geological or soils associations | Yes | Prefers sands or sandy loams and gravelly soils, moist and well drained. |
| Commonly associated flora species | No | Not specified in literature |
| Response to/ occurrence near disturbance | Unknown | Not specified in literature |
| Geographical restrictions | Unknown | Not specified in literature |
| Elevation | Unknown | Not specified in literature |

### Juniper-leaved Grevillea *Grevillea juniperina* subsp. *juniperina*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 724, 725,806, 807, 808, 849, 850, 883 | 724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion  806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  808 Derived shrubland on Tertiary Gravels of the Cumberland Plain  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion |
| Distribution | Cumberland Plain/Western Sydney | Endemic to Western Sydney, centred on an area bounded by Blacktown, Erskine Park, Londonderry and Windsor with outlier populations at Kemps Creek and Pitt Town. |
| Vegetation structure preference | Yes | Open forest and woodland. Also disturbed areas. |
| Geological or soils associations | Yes | Grows on reddish clay to sandy soils derived from Wianamatta Shale and Tertiary alluvium (often with shale influence), typically containing lateritic gravels. |
| Commonly associated flora species | Yes | In Castlereagh Woodland on more sandy soils the dominant canopy species are *Eucalyptus fibrosa*, *E. sclerophylla, Angophora bakeri* and *Melaleuca decora*. Understorey species include *Melaleuca nodosa*, *Hakea sericea*, *Cryptandra spinescens*, *Acacia elongata*, *Gonocarpus teucrioides, Lomandra longifolia* and *Dillwynia tenuifolia, Pultenaea parviflora, Micromyrtus minutiflora* and *Allocasuarina glareicola*.  Cumberland Plain Woodland and Shale/Gravel Transition Forest include *Eucalyptus tereticornis, E. moluccana, E. crebra, E. fibrosa* and *E. eugenioides*. Understorey species include *Bursaria spinosa, Dillwynia sieberi, Ozothamnus diosmifolius, Daviesia ulicifolia, Acacia falcata, Acacia parramattensis, Themeda australis, Aristida ramosa, Cymbopogon refractus, Eragrostis brownii, Cheilanthes sieberi, Dianella revoluta* and *Goodenia hederacea*. |
| Response to/ occurrence near disturbance | Yes | Physical disturbance of the soil appears to result in an increase in seedling recruitment. Tends to colonise mechanically disturbed areas. Killed by fire, recruit by seed/ soil seed bank. Dense growth of Blackthorn (Bursaria) can limit the ability of the species to spread. |
| Geographical restrictions | Yes | Western Sydney. |
| Elevation | Unknown | Not specified in literature |

### *Gyrostemon thesioides*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 724, 725, 941, 1395, 1081, 1105, 1789, 1181, 1776, 1800, 1292 | 724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion  941 Mountain Blue Gum - Thin-leaved Stringybark open forest on river flat alluvium in the Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1105 River Oak open forest of major streams, Sydney Basin Bioregion and South East Corner Bioregion  1789 Smooth-barked Apple - Blackbutt - Red Bloodwood open forest in enriched sandstone gullies of the western Woronora plateau  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1776 Smooth-barked Apple - Red Bloodwood open forest on enriched sandstone slopes around Sydney and the Central Coast  1800 Swamp Oak open forest on riverflats of the Cumberland Plain and Hunter valley  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion |
| Distribution | Occurs NSW, WA, SA, VIC, and TAS. | Recorded at three sites, to the west of Sydney, near the Colo, Georges and Nepean Rivers. Not recently recorded. |
| Vegetation structure preference | Unknown | Not listed for NSW occurrences. |
| Geological or soils associations | Yes | Grows on hillsides and riverbanks and may be restricted to fine sandy soils. |
| Commonly associated flora species | No | Not specified in literature. |
| Response to/ occurrence near disturbance | Yes | Listed as a fire-opportunist, recruitment from soil stored seed banks. |
| Geographical restrictions | Yes | River gorges. |
| Elevation | Unknown | Not specified in literature |

### Woronora Beard-heath *Leucopogon exolasius*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 883, 1067,1081, 1083, 1789, 1181, 1780, 1292 | 883 Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion  1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1789 Smooth-barked Apple - Blackbutt - Red Bloodwood open forest in enriched sandstone gullies of the western Woronora plateau  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1780 Sydney Peppermint / Coachwood - Water Gum open forest in protected sandstone gullies around Sydney and the Central Coast  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion |
| Distribution | Sydney Basin | Recorded south of Sydney to the Woronora Catchment Special Areas in Avon Catchment. |
| Vegetation structure preference | Yes | Open forest and woodland. |
| Geological or soils associations | Yes | Occurs on sandstone substrates, in steep gullies to relatively flat areas. Occurs in sandy loams. |
| Commonly associated flora species | Yes | *Eucalyptus piperita, E. sieberi* and shrubs *Pultenaea flexilis, Leptospermum trinervium, Dillwynia retorta.* |
| Response to/ occurrence near disturbance | Yes | Killed by fire. |
| Geographical restrictions | Yes | Southern Sydney Basin. |
| Elevation | Yes | 0 -100 m.a.s.l |

### *Leucopogon fletcheri* subsp. *fletcheri*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 1395, 1081, 1787, 1083, 1181 | 1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1787 Red Bloodwood - Scribbly Gum - Stringybark open forest on sandstone ridges along the western side of the Woronora and Hornsby plateaus  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion |
| Distribution | Sydney Basin | Recorded from north-western Sydney between St Albans in the north and Annangrove in the south, within the local government areas of Hawkesbury, Baulkham Hills and Blue Mountains. |
| Vegetation structure preference | Yes | Open forest and woodland. |
| Geological or soils associations | Yes | Clayey lateritic soils associated with the Mittagong Formation between the Wianamatta Shale and the Hawkesbury Sandstone, generally on flat to gently sloping terrain along ridges and spurs. |
| Commonly associated flora species | No | Not specified in literature |
| Response to/ occurrence near disturbance | Yes | Killed by fire. |
| Geographical restrictions | Yes | Northern Sydney Basin and lower Blue Mountains. |
| Elevation | Unknown | Not specified in literature |

### *Maundia triglochinoides*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 781, 1798, 923, 1071, 1795, 1231, 1232, 1800, 99996 | 781 Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion  1798 Flax-leaved Paperbark open to closed mesic forest on alluvial riverflats in the Sydney region  923 Melaleuca linariifolia - Swamp Mahogany swamp forest in drainage lines of the edges of the Cumberland Plain, Sydney Basin Bioregion  1071 Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion  1795 Swamp Mahogany / Cabbage Tree Palm - Cheese Tree - Swamp Oak tall open forest on poorly drained coastal alluvium in the Sydney basin  1231 Swamp Mahogany swamp sclerophyll forest on coastal lowlands of the Sydney Basin Bioregion and South East Corner Bioregion  1232 Swamp Oak floodplain swamp forest, Sydney Basin Bioregion and South East Corner Bioregion  1800 Swamp Oak open forest on riverflats of the Cumberland Plain and Hunter valley  99996 Water bodies, rivers, lakes, streams (not wetlands) |
| Distribution | NSW Central and North Coast | Restricted to coastal NSW and extending into southern Queensland. The current southern limit is Wyong; former sites around Sydney are now extinct. |
| Vegetation structure preference | Yes | Swamps, lagoons, dams, channels, creeks or shallow freshwater 30 - 60 cm deep. |
| Geological or soils associations | Yes | Heavy clay, low nutrients. |
| Commonly associated flora species | Yes | *Cycnogeton procerum* (Formerly *Triglochin procerum*) |
| Response to/ occurrence near disturbance | Yes | Killed by in-filling, changes in hydrology, water quality and weed invasion. |
| Geographical restrictions | Yes |  |
| Elevation | Not Applicable |  |

### Tall Knotweed *Persicaria elatior*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 781, 835, 99997, 923, 1071, 1800, 99996 | 781 Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion  99997 Highly disturbed areas - road verges, table drains, road embankments, ploughed paddocks etc. Complete  923 Melaleuca linariifolia - Swamp Mahogany swamp forest in drainage lines of the edges of the Cumberland Plain, Sydney Basin Bioregion  1071 Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion  1800 Swamp Oak open forest on riverflats of the Cumberland Plain and Hunter valley  99996 Water bodies, rivers, lakes, streams (not wetlands) Complete |
| Distribution | Coastal NSW | Recorded in south-eastern NSW (Mt Dromedary (an old record), Moruya State Forest near Turlinjah, the Upper Avon River catchment north of Robertson, Bermagui, and Picton Lakes. In northern NSW it is known from Raymond Terrace (near Newcastle) and the Grafton area (Cherry Tree and Gibberagee State Forests). The species also occurs in Queensland. |
| Vegetation structure preference | Yes | Swamp forest areas or riparian vegetation. |
| Geological or soils associations | Yes | Grows on sandy, alluvial soil in swampy areas and riparian herblands along watercourses and lake edges. |
| Commonly associated flora species | Yes | *Melaleuca linearifolia, M. quinquenervia, Pseudognaphalium luteoalbum,and Persicaria hydropiper* |
| Response to/ occurrence near disturbance | Yes | Can regenerate from disturbance of appropriate habitats. |
| Geographical restrictions | Yes | Coastal water bodies and inundated areas of NSW and QLD. |
| Elevation | Not Applicable |  |

### Bargo Geebung *Persoonia bargoensis*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 849, 1395, 1081, 1083, 1181, 1250, 1292 | 849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1250 Sydney Peppermint - Smooth-barked Apple - Red Bloodwood shrubby open forest on slopes of moist sandstone gullies, eastern Sydney Basin Bioregion Complete  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion |
| Distribution | Sydney Basin | The Bargo Geebung is restricted to a small area south-west of Sydney on the western edge of the Woronora Plateau and the northern edge of the Southern Highlands. The historical limits are Picton and Douglas Park (northern), Yanderra (southern), Cataract River (eastern) and Thirlmere (western). |
| Vegetation structure preference | Yes | Woodland or dry sclerophyll forest. |
| Geological or soils associations | Yes | On heavier, well drained, loamy, gravelly soils of the Wianamatta Shale and Hawkesbury Sandstone. It favours interface soil landscapes such as between the Blacktown Soil Landscape and the complex Mittagong Formation soils (Lucas Heights Soil Landscape) with the underlying sandstone (Hawkesbury Soil Landscape and Gymea Soil Landscape). |
| Commonly associated flora species | No | Not specified in literature |
| Response to/ occurrence near disturbance | Yes | Potentially limited by disturbance. |
| Geographical restrictions | Yes | West and South-west Sydney. |
| Elevation | No | Not specified in literature |

### Spiked Rice-flower *Pimelea spicata*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 806, 807, 830, 838, 849, 850, 99997, 99993 | 806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  830 Forest Red Gum - Grey Box shrubby woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  838 Forest Red Gum - Thin-leaved Stringybark grassy woodland on coastal lowlands, southern Sydney Basin Bioregion  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  99997 Highly disturbed areas - road verges, table drains, road embankments, ploughed paddocks etc.  99993 Rocky cliffs, major rock outcrops etc |
| Distribution | Localised Sydney Basin | Once widespread on the Cumberland Plain, the Spiked Rice-flower occurs in two disjunct areas of the Cumberland Plain (Marayong and Prospect Reservoir south to Narellan and Douglas Park). |
| Vegetation structure preference | Yes | Open woodland or dry sclerophyll forest. |
| Geological or soils associations | Yes | Records indicate it prefers well-structured clays derived from Wianamatta Shale. |
| Commonly associated flora species | Yes | Cumberland Plain sites are Grey Box (*Eucalyptus moluccana*), Forest Red Gum (*E. tereticornis*) and Narrow-leaved Ironbark (*E. crebra*). Blackthorn (*Bursaria spinosa*) is often present at sites (and may be important in protection from grazing) and Kangaroo Grass (*Themeda australis*) is usually present in the groundcover (also indicative of a less intense grazing history). |
| Response to/ occurrence near disturbance | Yes | Long lived, able to re-sprout from root stock and tend towards dormancy when harsh conditions prevail. |
| Geographical restrictions | Yes | Localised to Cumberland Plain and Illawarra. |
| Elevation | No | Not specified in literature |

### Brown Pomaderris *Pomaderris brunnea*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 774, 835, 860, 1395, 1067, 1081, 1105, 1181, 1292 | 774 Coast Banksia scrub on sand in the Elderslie area, Sydney Basin Bioregion  835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion  860 Grey Gum - Broad-leaved Ironbark dry open forest on gorge slopes of the Blue Mountains, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1067 Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1105 River Oak open forest of major streams, Sydney Basin Bioregion and South East Corner Bioregion  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1292 Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin Bioregion |
| Distribution | Localised Sydney Basin in NSW | Recorded in a very limited area around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area and near Camden. |
| Vegetation structure preference | Yes | Moist woodland or forest. |
| Geological or soils associations | Yes | Records indicate it prefers alluvial soils of floodplains and creek lines. |
| Commonly associated flora species | Yes | *Eucalyptus amplifolia*, *Angophora floribunda*, *Acacia parramattensis*, *Bursaria spinosa* and *Kunzea ambigua*. |
| Response to/ occurrence near disturbance | Unknown | Not listed in literature. |
| Geographical restrictions | Yes | Localised to Western and South Western Sydney in NSW. |
| Elevation | No | Not specified in literature. |

### Sydney Plains Greenhood *Pterostylis saxicola*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 806, 807, 849, 1395, 1081, 1083, 1127, 1789, 1845, 1181, 1250 | 806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion  1081 Red Bloodwood - Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin Bioregion  1083 Red Bloodwood - scribbly gum heathy woodland on sandstone plateaux of the Sydney Basin Bioregion  1127 Sandstone cliff-face soak of the Sydney Basin Bioregion  1789 Smooth-barked Apple - Blackbutt - Red Bloodwood open forest in enriched sandstone gullies of the western Woronora plateau  1845 Smooth-barked Apple - Red Bloodwood - Blackbutt tall open forest on shale sandstone transition soils in eastern Sydney  1181 Smooth-barked Apple - Red Bloodwood - Sydney Peppermint heathy open forest on slopes of dry sandstone gullies of western and southern Sydney, Sydney Basin Bioregion  1250 Sydney Peppermint - Smooth-barked Apple - Red Bloodwood shrubby open forest on slopes of moist sandstone gullies, eastern Sydney Basin Bioregion |
| Distribution | Localised Sydney Basin in NSW | Recorded to western Sydney between Freemans Reach in the north and Picton in the south. There are very few known populations and they are all very small and isolated. Only one population occurs within a conservation reserve (Georges River National Park). |
| Vegetation structure preference | Yes | Occurs in sclerophyll forest or woodland on shale/sandstone transition soils or shale soils. |
| Geological or soils associations | Yes | Most commonly found growing in small pockets of shallow soil in depressions on sandstone rock shelves above cliff lines. |
| Commonly associated flora species | No | Not listed in literature. See vegetation communities above. |
| Response to/ occurrence near disturbance | No | Negative response to disturbance. |
| Geographical restrictions | Yes | Localised to Western and South Western Sydney in NSW. |
| Elevation | No | Not specified in literature. |

### Matted Bush-pea *Pultenaea pendunculata*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 724, 725, 806, 807, 808, 849, 850, 99997, 1395 | 724 Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion  725 Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion  806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  808 Derived shrubland on Tertiary Gravels of the Cumberland Plain  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion  99997 Highly disturbed areas - road verges, table drains, road embankments, ploughed paddocks etc  1395 Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion |
| Distribution | Widespread in VIC, TAS, and SE Australia. Three localised populations in NSW. | The Cumberland Plain occurrences were more widespread (Yennora, Canley Vale and Cabramatta were lost to development) and is now found at Villawood and Prestons, and north-west of Appin between the Nepean River and Devines Tunnel number 2 (Upper Sydney Water Supply Canal). |
| Vegetation structure preference | Yes | Among woodland vegetation but plants have also been found on road batters and coastal cliffs. |
| Geological or soils associations | Yes | Favours sites in clay or sandy-clay soils (Blacktown Soil Landscape) on Wianamatta Shale-derived soils, usually close to patches of Tertiary Alluvium (Liverpool area) or at or near the Shale-Sandstone interface (Appin). All sites have a lateritic influence with ironstone gravel (nodules) present. |
| Commonly associated flora species | Yes | *Eucalyptus moluccana*, *E. fibrosa*, *E. crebra, E. longifolia* and *Melaleuca decora*. Understorey species include *Bursaria spinosa, Ozothamnus diosmifolius, Acacia parramattensis, A. falcata, Indigofera australis, Dillwynia sieberi, Olearia viscidula, Kunzea ambigua, Opercularia diphylla, Astroloma humifusum, Glycine tabacina, Hardenbergia violacea, Wahlenbergia gracilis, Aristida vagans, Gahnia aspera, Lomandra filiformis, Cheilanthes sieberi* and *Themeda australis*. |
| Response to/ occurrence near disturbance | Yes | Aril around seed suggests recruitment from soil stored seed banks. Will root at the nodes therefore can vegetatively colonise disturbed ground. Unknown response to fire. Recorded on road batters. |
| Geographical restrictions | Yes | Localised to three locations in NSW, including Cumberland Plain. |
| Elevation | No | Not specified in literature |

### Austral Toadflax *Thesium australe*

| Categorisation | Relevance to species | Notes |
| --- | --- | --- |
| Habitat Requirement / PCT | 806, 807, 849, 850 | 806 Derived grasslands on shale hills of the Cumberland Plain (50-300m asl)  807 Derived grasslands on shale plains of the Cumberland Plain (<100m asl)  849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion  850 Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion |
| Distribution | Widespread and locally rare. | Found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia. |
| Vegetation structure preference | Yes | Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. |
| Geological or soils associations | Unknown | Not specified in literature |
| Commonly associated flora species | Yes | *Themeda australis* and other grass species. |
| Response to/ occurrence near disturbance | Unknown | Not specified in literature |
| Geographical restrictions | No | Not specified in literature. |
| Elevation | No | Not specified in literature. |

Table 1 Summary of criteria for GIS mapping of threatened species within the Cumberland Plain

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Habitat mapping | Criteria | AND | AND | Consider | Notes | References |
| Species | BioNet Records buffer | PCT | Specific | Specific |  |  |
| Barking Owl | 2000 ha home range | 1067; 1081; 1181; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774 |  |  |  |  |
| Powerful Owl | 4000 ha home range | 1067; 1081; 1181; 1253; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 877 | Minimum 1 ha of vegetated (no more than 50 m separating patches) | Other: preferred habitat probably occurs 15 m vegetated buffer on either side of all water bodies and watercourses (all orders) | Foraging habitat - areas of vegetation greater than 1ha that can provide prey items (with no more than 50 m separating vegetation patches) | Powerful Owl Project Bain et al 2014 |
| Bush stone Curlew | 340 ha home range | 1067; 1395; 724; 725; 830; 835; 849; 850; 883; 774 | Below 300 m elevation |  |  |  |
| Little Eagle | 5 ha | 1067; 1081; 1181; 1253; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 877 |  |  | Not sure where home range came from - can't see reference |  |
| Swift Parrot |  | 1067; 1081; 1181; 1253; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 876 |  |  |  |  |
| Gang Gang |  | 1067; 1081; 1181; 1292; 1395; 724; 725; 830; 835; 849; 850; 883; 774; 876 |  |  |  |  |