



Natural Area
CONSULTING MANAGEMENT SERVICES

**NEWest Alliance, Thornlie Cockburn Line
Basic Flora Survey and Black Cockatoo
Habitat Assessment
Additional S45C Survey Sites Part B
V3**

Spring 2022

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1.0 Introduction

Newest Alliance contracted Natural Area Consulting Management Services (Natural Area) to undertake an additional basic Spring flora and vegetation survey and black cockatoo habitat assessment along the Thornlie-Cockburn (TCL) rail corridor. Outcomes of the survey are to provide information on the environmental value of the site and to inform a future clearing permit application for an S45C amendment.

1.1 Location

The survey sites are located 20 km south of Perth's Central Business District (CBD), in the suburb of Thornlie, Canning Vale, Bibra Lake, Jandakot, Kenwick and Beckenham. The sites surveyed consisted of several small sites along the TCL rail corridor (Figure 1 to 18). The survey sites are all disturbed, with sections being historically cleared and runs adjacent to the Thornlie-Cockburn Link (TCL) railway corridor.

Several of the survey sites are located near conservation significant locations, these include:

- Thornlie Train Station and O'Dell Street, particular O'Dell Street (northern portion) is located within an Environmentally Sensitive Area (ESA), ID 18800 and Bush Forever Area Site 246
- Tom Bateman Newest Compound located within the Bush Forever Site 456 and an ESA (ID 18559)
- Ranford Rd is located in close proximity to an ESA (ID 18610 and Bush Forever Site 388
- North Lake Rd is located in close proximity to an ESA (ID 18683) and Bush Forever Site 254
- Leeming Rd is located within Bush Forever Site 388 and 245 and spans across three ESA's (ID 18610, 11849, 18594)
- Albany Highway and Burham Rd is located with two ESA's (ID 10047 and 10051)
- Edge of Kenwick Wetlands and the extended portion is located in close proximity to Bush Forever Area Site 387 and in located within the ESA 10047 and 17267
- Sevenoaks St is located with an ESA (ID 10051).

1.2 Scope

The basic flora and vegetation survey, targeted flora search and Black Cockatoo habitat assessment aimed to determine:

- the extent and boundaries of vegetation types and condition
- flora species (native and introduced) present
- the location of declared rare or priority flora and or ecological communities if present
- identification of potential black cockatoo habitat.

Activities undertaken by Natural Area included:

- desktop database searches to identify potential conservation significant flora species, along with any threatened or priority ecological communities
- basic flora and vegetation survey to determine the extent of vegetation type and condition
- recording a flora species (native and introduced) list
- black cockatoo habitat assessment
- identifying the presence of any weeds of national significance (WoNS) or declared pests
- conducting a targeted flora search in September and November for *Caladenia huegellii*, including GPS tracker as evidence of the search

- reporting outcomes of assessment.

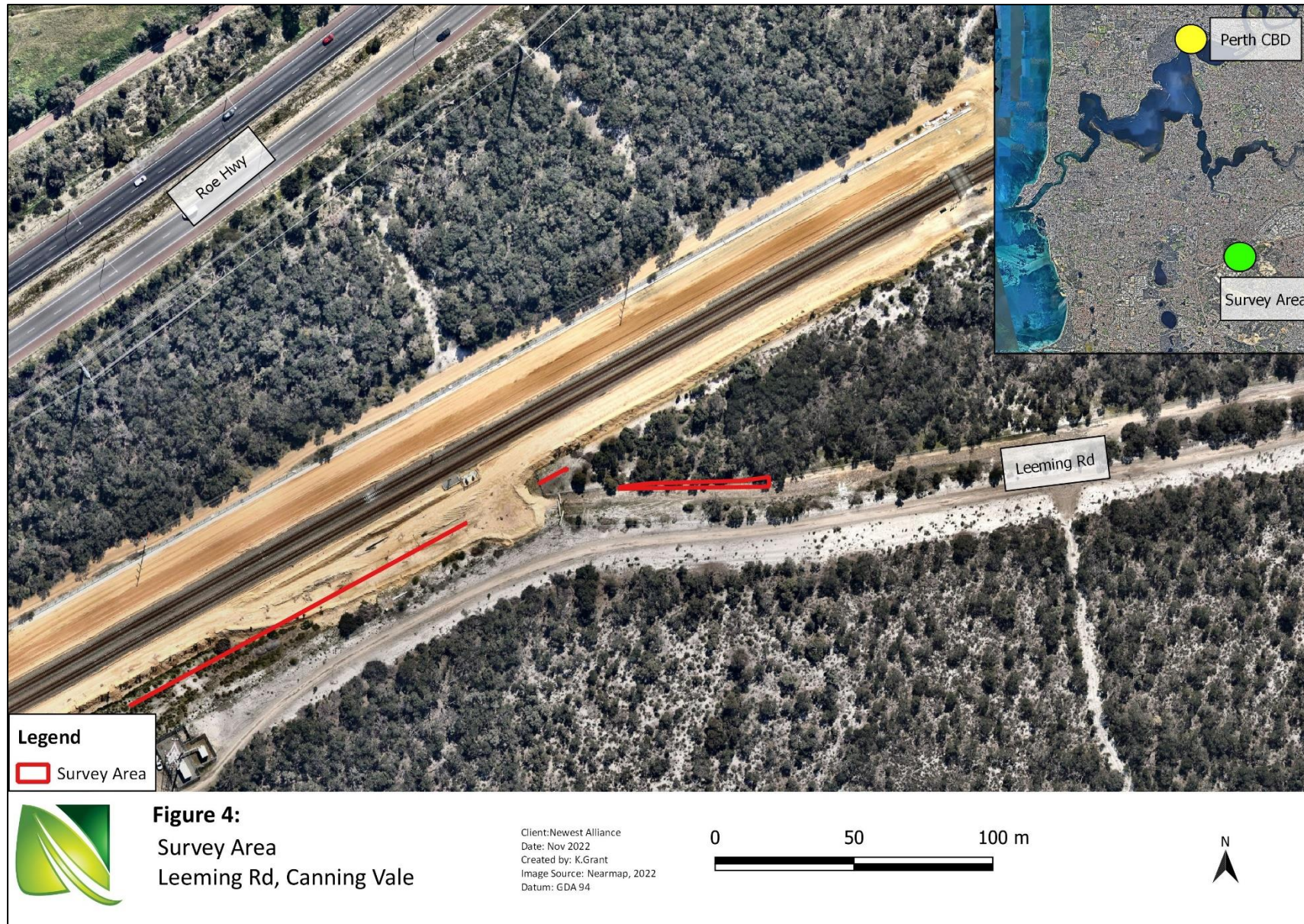
1.3 Objectives

The objective of the survey was to collect sufficient data to inform an S45C amendment request to the Environmental Protection Authority (EPA).





























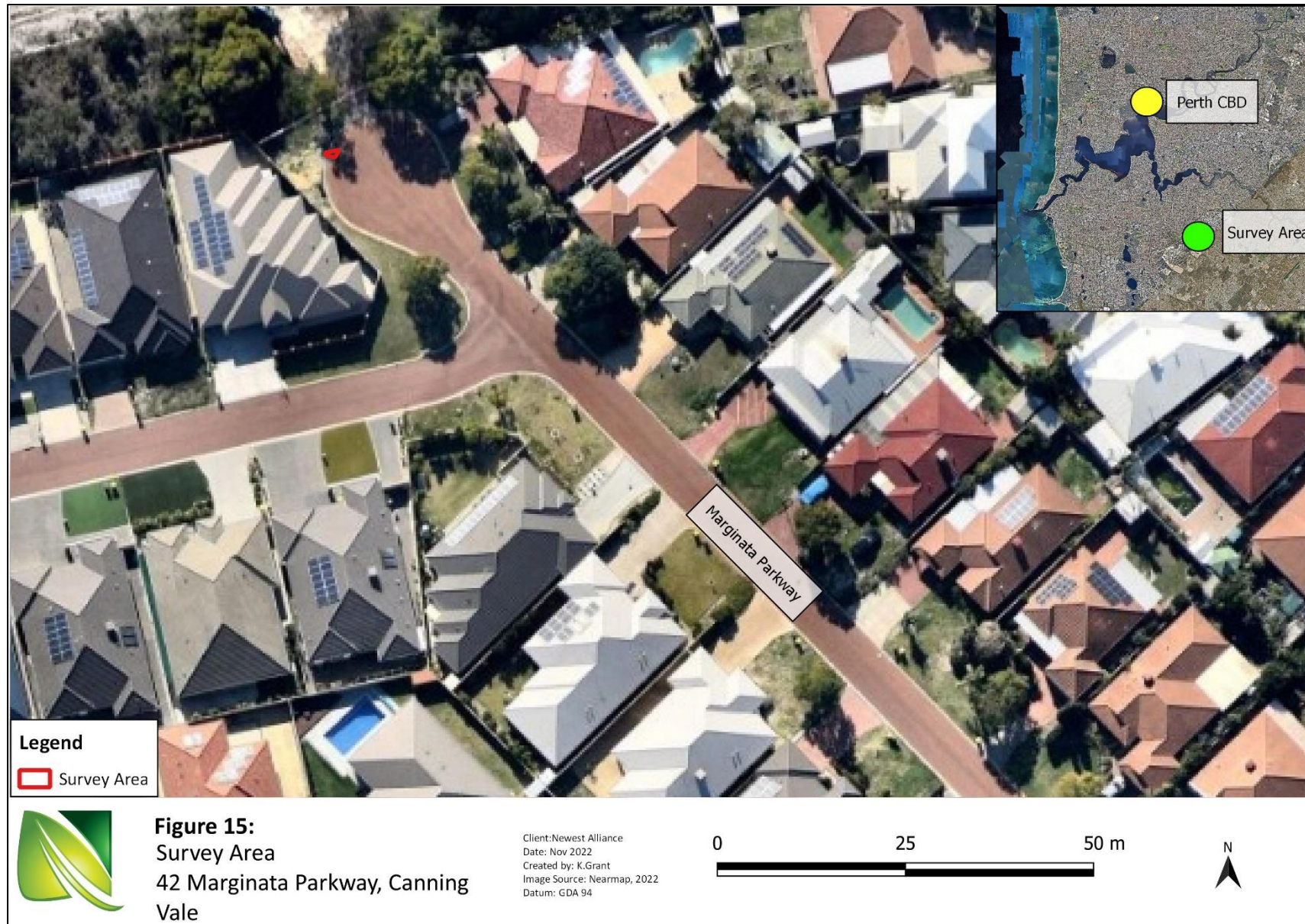
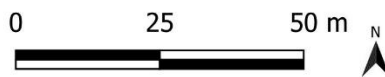






Figure 17:
Extended Survey Area
Edge of Kenwick Wetlands



Client: Newest Alliance
Date: Nov 2022
Created by: K. Grant
Image Source: Nearmap, 2022
Datum: GDA 94



2.0 Methodology

2.1 Desktop and Literature Review

The desktop survey included reviewing online databases to gather contextual knowledge and determine preliminary site characteristics including:

- likely native and non-native flora species present
- current extent of native vegetation
- general floristic community types
- likely presence of threatened or priority flora species
- likely presence of any threatened or priority ecological communities

The following databases were accessed to obtain relevant information:

- Protected Matters Search Tool (Department of the Agriculture, Water and Environment, 2022) (Appendix 1)
- FloraBase (Department of Biodiversity, Conservation and Attractions, 2022b).

Conservation code definitions for the State and Commonwealth is provided in Appendix 2.

2.2 On-ground Flora Survey

The flora and vegetation survey was conducted in accordance with *Technical Guidance-Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority, 2016), and included a desktop review of literature and databases. Samples were collected, or photographs taken of unfamiliar species to enable later identification.

Natural Area botanists Taryn Brebner and assistant Michael Beeton undertook the flora survey and black cockatoo habitat assessment on 3rd and 4th of October 2022. An additional survey was conducted by botanist, Taryn Brebner on the 7th of November 2022 to include the extended portions of Turtle Cove Point and McLean Rd and the additional site known as Edge of Kenwick Wetlands. Botanist, Taryn Brebner also attended site on the 24th of November 2022 to include an extended portion of Edge of Kenwick Wetlands and an additional site located near a construction area off Roe Highway. Key data recorded using Mappt software on a handheld tablet. Survey activities included:

- recording all species present within each survey site
- recording vegetation type including dominant over, middle and understorey species and condition using the scale attributed to Keighery (Government of Western Australia, 2000)
- determining the presence of any threatened or priority listed flora species and/or ecological communities listed under the *Biodiversity and Conservation Act 2016 (WA)* and/or the *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
- undertaking a targeted flora search for the *Caladenia huegelii* (Grand Spider Orchid).

2.2.1 Vegetation Type

The vegetation type was determined using the structural classes described in *Bush Forever Volume 2* (Government of Western Australia, 2000), and records dominant over, middle and understorey species. A description of the various structural classes is provided in Table 1.

Table 1: Vegetation structural classes

Life Form/Height Class	Canopy Percentage Cover			
	100 – 70%	70 – 30%	30 – 10%	10 – 2 %
Trees over 30 m	Tall closed forest	Tall open forest	Tall woodland	Tall open woodland
Trees 10 – 30 m	Closed forest	Open forest	Woodland	Open woodland
Trees under 10 m	Low closed forest	Low open forest	Low woodland	Low open woodland
Tree Mallee	Closed tree mallee	Tree mallee	Open tree mallee	Very open tree mallee
Shrub Mallee	Closed shrub mallee	Shrub mallee	Open shrub mallee	Very open shrub mallee
Shrubs over 2 m	Closed tall scrub	Tall open scrub	Tall shrubland	Tall open shrubland
Shrubs 1 – 2 m	Closed heath	Open heath	Shrubland	Open shrubland
Shrubs under 1 m	Closed low heath	Open low heath	Low shrubland	Low open shrubland
Grasses	Closed grassland	Grassland	Open grassland	Very open grassland
Herbs	Closed herbland	Herbland	Open herbland	Very open herbland
Sedges	Closed sedgeland	Sedgeland	Open sedgeland	Very open sedgeland

Source: Government of Western Australia, 2000

2.2.2 Vegetation Condition

Vegetation condition was assessed using the rating scale attributed to Keighery in *Technical Guidance-Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016) (Table 2). Table 2 provides a description of the rating scale.

Table 2: Vegetation condition ratings

Category	Description
1 Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
2 Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
3 Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
4 Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds, partial clearing, dieback and grazing.
5 Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.

Category	Description
	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.
6 Completely Degraded	The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Source: EPA, 2016

2.3 Black Cockatoo Habitat Assessment

A black cockatoo habitat assessment was undertaken in conjunction with the basic flora and vegetation survey. GPS data was recorded using Mappt software on a handheld tablet. The following data was collected and recorded:

- locations of potential habitat trees with a diameter at breast height (DBH) of ≥ 500 mm
- location of habitat trees with the potential to provide foraging, roosting or hollows for threatened black cockatoos
- identifying and recording the species of the habitat trees
- recording direct sightings of birds within the survey area
- recording evidence of foraging within the site.

The black cockatoo habitat assessment was carried out in accordance with *EPBC Act Referral Guidelines for Three Threatened Black Cockatoo's Species* guidelines (Department of Sustainability, Environment, Water, Population and Communities, 2012).

2.4 Limitations

Limitations for the survey works are outlined in Table 3.

Table 3: Flora survey limitations

Potential Limitation	Degree of Limitation	Comments
Availability of contextual information	Not a limitation	Local and regional information readily available for the survey site
Competency/experience of team	Not a limitation	Experienced and qualified lead botanist with numerous years of experience within the Swan Coastal Plain region, including flora surveys and black cockatoo habitat assessments.
Proportion of flora recorded/collected, any identification issues	Not a limitation	All flora species have been identified to species level with the exception of three species. These three species are identified to a genus level and are most likely non-native species that are planted.
Survey effort and extent	Minor	The survey was conducted as a basic survey and a targeted search for the <i>Caladenia</i>

Potential Limitation	Degree of Limitation	Comments
		<p><i>huegelii</i> (Grand Spider Orchid). The information collected from the surveys is not able to be used for the analysis of potential threatened ecological communities present within the site due to the type of survey requested.</p> <p>The entirety of the site has been surveyed in accordance with EPA technical guidance (EPA, 2016). The survey effort and extent expended was adequate for the requirements of the sites.</p>
Access restrictions	Not a limitation	No access restrictions
Survey timing	Not a limitation	The survey was conducted in Spring which is the optimal time of year to conduct flora surveys in the southwest region.
Disturbances	Not a limitation	No recent disturbances, such as fire or clearing of vegetation were noted within the site. All site disturbances are historical.

3.0 Flora Survey Results

3.1 Desktop Survey

A review of the Protected Matters Search Tool (PMST) (Department of Agriculture, Water, and the Environment, 2022) indicated 30 significant flora species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) as potentially occurring within a 10 km radius of the site (Appendix 1). Of the conservation significant species potentially found in the area, it was determined that the site conditions (soil type, drainage, location) may be suitable for three (highlighted green) of these species (Table 4). Conservation code descriptions are provided in Appendix 2.

Table 4: Threatened and Priority flora species listed by PMST

Species Name	Cons Code	Likelihood to occur
<i>Acacia anomala</i>	VU	Unlikely
<i>Acacia aphylla</i>	VU/T	Unlikely
<i>Andersonia gracilis</i>	EN/T	Unlikely
<i>Austrostipa bronweniae</i>	EN/T	Unlikely
<i>Austrostipa jacobiana</i>	CR/T	Unlikely
<i>Banksia mimica</i>	EN/T	Unlikely
<i>Caladenia huegelii</i>	EN/T	Possible
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	EN/T	Unlikely
<i>Chamelaucium lullfitzii</i>	EN/T	Unlikely
<i>Conospermum undulatum</i>	VU/T	Unlikely
<i>Darwinia apiculata</i>	EN/T	Unlikely
<i>Diplolaena andrewsii</i>	EN/T	Unlikely
<i>Diuris drummondii</i>	VU/T	Unlikely
<i>Diuris micrantha</i>	VU/T	Unlikely
<i>Diuris purdiei</i>	EN/T	Unlikely
<i>Drakaea elastica</i>	EN/T	Unlikely
<i>Drakaea micrantha</i>	VU/T	Unlikely
<i>Eleocharis keigheryi</i>	VU/T	Unlikely
<i>Eremophila glabra</i> subsp. <i>chlorella</i>	EN/T	Unlikely
<i>Eucalyptus x balanites</i>	EN/T	Unlikely
<i>Goodenia arthrotricha</i>	EN/T	Unlikely
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	EN/T	Unlikely
<i>Grevillea thelemanniana</i>	CR	Possible

Species Name	Cons Code	Likelihood to occur
<i>Lepidosperma rostratum</i>	EN/T	Unlikely
<i>Macarthuria keigheryi</i>	EN/T	Possible
<i>Ptilotus pyramidatus</i>	CR/T	Unlikely
<i>Synaphea</i> sp. Fairbridge Farm	CR/T	Unlikely
<i>Synaphea</i> sp. Pinjarra Plain	EN/T	Unlikely
<i>Synaphea</i> sp. Serpentine	CR/T	Unlikely
<i>Thelymitra stellata</i>	EN/T	Unlikely

3.1.1 Threatened and Priority Ecological Communities

A review of the PMST report identified five listed Threatened Ecological Communities (TEC) that could potentially occur within 10 km of the site (Table 5).

Table 5: Potential Threatened Ecological Communities within the survey site.

Name	Status	Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within the area
<i>Corymbia calophylla</i> – <i>Kingia australis</i> woodlands on heavy soils of the Swan Coastal Plain	Endangered	Community likely to occur within the area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area

Source: Department of Agriculture, Water, and the Environment, 2022

3.1.2 Black Cockatoo Habitat Assessment

A review of National Map (DBCA, 2022c) determined that the survey sites is located within the following zones:

- Black Cockatoo Roosting Sites – Buffered (DBCA-064) (Clements Place, Turtle Point Cove, Ranford Road, Kenwick Additional Portion and Glen Iris)
- Carnaby’s Cockatoo Areas requiring investigation as feeding habitat in the Swan Coastal Plain (SCP) IBRA Region (DBCA-057) (portion of Clements Place and a portion of Leeming Road)
- Carnaby’s Cockatoo Unconfirmed Roost Sites Buffered 6 km (DBCA-053) (Ranford Road, Waratah Boulevard, 42 Marginata Parkway, Mesa Place, McLean Road and Nicholson Road)
- Carnaby’s Cockatoo Confirmed Breeding Areas within Swan Coastal Plain and Jarrah Forest IBRA Regions (DBCA-054) (Nicholson Rd, Tom Bateman Newest Compound, Elliot Place, Thornlie Train

Station, O’Dell Street, Albany Hwy and Burham Road, Edge of Kenwick Wetlands, Extended Portion of Edge of Kenwick Wetlands, Kenwick Additional Portion and Sevenoaks Street)

- Carnaby’s Cockatoo Confirmed Roost Sites Buffered 6 km (DBCA-052) (North Lake Road, Clements Place, Leeming Road, Turtle Point Cove, Glen Iris, Ranford Road, Waratah Boulevard, Mesa Place, McLean Road, Nicholson Road, Tom Bateman Newest Compound and Elliott Place).

3.2 Flora Survey Results

3.2.1 Flora

The on-ground flora surveys are detailed in this section. A total of 163 flora species (taxa) from 53 families including three dubious species, 94 introduced (weed), three dubious species and 66 native species were recorded over the several sites that were surveyed. Three declared pests, Paterson’s Curse (**Echium plantagineum*), Narrowleaf Cottonbush (**Gomphocarpus fruticosus*) and Common Lantana (**Lantana camara*) were recorded during the Spring 2022 survey. Common Lantana is also classified as weed of national significance (WoNS). Locations of these significant weeds is provided in Appendix 5.

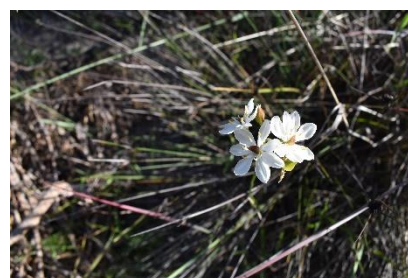
Examples of the native flora are shown in Figure 19 and introduced (weed) species in Figure 20. A complete flora list is provided in Appendix 3. No conservation significant flora species were recorded during the Spring 2022 survey. No individuals of the Threatened, *Caladenia huegelii* were observed in the 2022 surveys. Tracklogs of the search conducted have been provided in Appendix 4.



Corymbia calophylla
(Marri)



Scaevola nitida
(Shining Fanflower)



Burchardia congesta



Spyridium globulosum
(Basket Bush)



Hibbertia hypericoides
(Yellow Buttercups)



Petrophile linearis
(Pixie Mops)

Figure 19: Examples of native flora species recorded



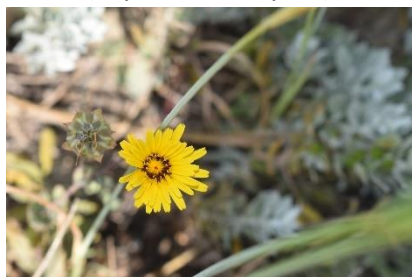
Couch
(**Cynodon dactylon*)



White Cedar
(**Melia azedarach*)



Geraldton Wax
(**Chamelaucium uncinatum*)



False Sowthistle
(**Reichardia tingitana*)



**Retama raetam*



Fountain Grass
(**Cenchrus setaceus*)

Figure 20: Examples of introduced flora species recorded

3.2.1.1 Waratah Boulevard

A total of 20 species (taxa) from nine families were recorded during the field survey. All were introduced (weed) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded within the survey area.

3.2.1.2 Leeming Road

A total of 28 species (taxa) from 14 families were recorded during the field survey. All were introduced (weed) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded within the survey area during the Spring 2022 survey.

3.2.1.3 Turtle Cove Point

A total of 16 species (taxa) from ten families were recorded during the field survey, an additional species was captured in the November survey when the extended Turtle Cove boundary was surveyed. All were introduced (weed) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.4 North Lake Rd

A total of 22 species (taxa) from nine families were recorded during the field survey. This includes 21 introduced species (weeds) and one native species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.5 Elliott Place

A total of seven species (taxa) from six families were recorded during the field survey. All were introduced (weed) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite.

3.2.1.6 Burham Road

A total of 17 species (taxa) from eight families were recorded during the field survey. Two dubious species with the rest being non-native introduced species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite.

3.2.1.7 Sevenoaks Road

A total of 12 species (taxa) from six families were recorded during the field survey. All were introduced (weed) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded within the survey area during the Spring 2022 survey.

3.2.1.8 Thornlie Station and O'Dell Street

A total of 28 species (taxa) from 10 families were recorded during the field survey. This included 26 introduced (weeds) and two native species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey. A weed of national significance (WoNS) and declared pest, *Lantana camara* was found within the survey area of Thornlie Station and O'Dell Street. This species is listed under the *Biosecurity and Agriculture Management Act 2007* (WA) and requires landowners/managers to undertake control.

3.2.1.9 Tom Bateman NEWest Alliance Compound

A total of 14 species (taxa) from five families were recorded during the field survey. All were introduced (weed) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite.

3.2.1.10 Nicholson Road

A total of 14 species (taxa) from five families were recorded during the field survey. All were introduced (weed) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.11 Mclean Road

A total of 13 species (taxa) from six families were recorded during the two Spring field surveys. An additional two species, Bearded Oat (*Avena barbata*) and Perennial Veldt Grass (*Ehrharta calycina*) were recorded during the additional site visit in November which was undertaken due to the revision of Mc Lean Road survey boundaries. Overall, this included twelve weed species and one native species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.12 Marginata Parkway

A total of six species (taxa) from four families were recorded during the field survey. All were introduced (weeds) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.13 Mesa Place

A total of four species (taxa) from four families were recorded during the field survey. All were introduced (weeds) species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.14 Clements Place

A total of 69 species (taxa) from 31 families were recorded during the field survey. This includes 31 introduced (weeds) and 38 native species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.15 Glen Iris Road

A total of 42 species (taxa) from 14 families were recorded during the field survey. This include a total of 24 introduced (weeds) species and 18 are native species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.16 Albany Highway

A total of 20 species (taxa) from 10 families were recorded during the field survey. One species was recorded as dubious, two native flora species and 17 introduced weed species. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.17 Ranford Rd

No vegetation was recorded at Ranford Rd, the survey site was located within the road verge.

3.2.1.18 Edge of Kenwick Wetland

A total of 33 species from 15 families were recorded during the field survey, this site was an additional site added on for the November 2022 survey. This total included 14 native species and 19 introduced species, including two declared pests Narrowleaf Cottonbush (**Gomphocarpus fruticosus*) and Paterson's Curse (**Echium plantagineum*) (Appendix 5). These species are listed under the *Biosecurity and Agriculture Management Act 2007* (WA) and requires landowners/managers to undertake control. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.19 Extended Portion of Edge of Kenwick Wetland

A total of 40 species from 15 families were recorded during the field survey, this site was an extended portion added on for the 23rd of November 2022 survey. This total included 15 native species and 25 introduced species, including one declared pest Paterson's Curse (**Echium plantagineum*) (Appendix 5). This species is listed under the *Biosecurity and Agriculture Management Act 2007* (WA) and requires landowners/managers to undertake control. A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.1.20 Kenwick Additional Portion

A total of 13 flora species from six families were recorded during the field survey, this survey area was an additional portion added during the 23rd of November 2022 survey. All species recorded were introduced (weed) species, besides one native species (*Themeda triandra*). A complete flora list is provided in Appendix 3. No conservation significant flora was recorded onsite during the Spring 2022 survey.

3.2.2 Vegetation Type and Condition

3.2.2.1 Waratah Boulevard

Waratah Boulevard vegetation type is classified as Open Mixed Introduced Herbland consisting of mixed introduced herbs and grasses (Figure 21). All species found on the site were introduced and the entire site is in a Completely Degraded condition.



Figure 21: Example of vegetation recorded within the Waratah Boulevard

3.2.2.2 Leeming Road

Leeming Road vegetation type is classified as Open Mixed Introduced Herbland consisting of introduced herbs and grasses (Figure 22). All species found on the site were introduced and the entire site is classified as in a Completely Degraded condition.



Figure 22: Example of vegetation recorded at Leeming Road

3.2.2.3 Turtle Cove Point

Turtle Cove Point vegetation type is classified as Open Mixed Introduced Herbland consisting of introduced herbs and grasses (Figure 23). All species found on the site were introduced and the entire site is classified as a Completely Degraded condition.



Figure 23: Example of vegetation recorded at Turtle Cove Point

3.2.2.4 North Lake Rd

The vegetation type for this survey area is classified as a Mixed Open Introduced Herbland consisting of introduced herbs and grasses and one native tree (Figure 24). The site is classified as Completely Degraded. The native tree *Eucalyptus marginata*, met the minimum size requirement of a black cockatoo habitat tree of a diameter at breast height of 500 mm or greater (Figure 25).



Figure 24: Vegetation type present at the North Lake Rd survey area

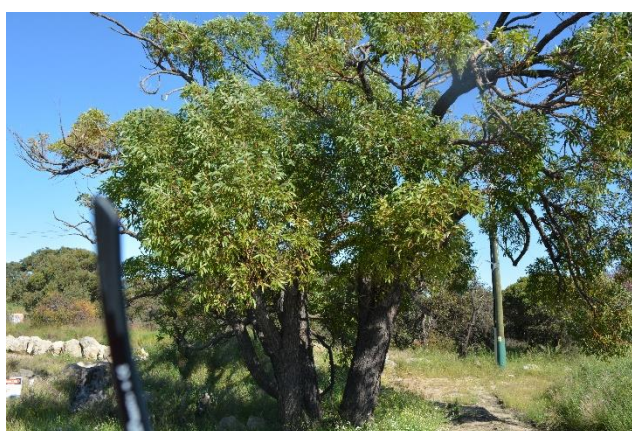


Figure 25: Habitat tree located within the North Lake Rd survey area

3.2.2.5 Elliott Place

Elliott Place survey area consisted of no native vegetation. The survey area consisted of maintained lawn and a garden bed (Figure 26). All species recorded on site were introduced and the whole survey area was classified as Completely Degraded.



Figure 26: Elliott Place survey area example

3.2.2.6 Burham Rd

One vegetation type was observed at Burham Rd, **Melia azedarach* over mixed introduced grasses and herbs. One potential habitat tree was marked within the site. Vegetation condition across the site was classed as Completely Degraded.

3.2.2.7 Sevenoaks Road

Sevenoaks road vegetation type is classified as Open *Eucalyptus camaldulensis* woodland consisting of *Eucalyptus camaldulensis* trees over mixed introduced grasses (Figure 27). The site was classified as Completely Degraded. The survey area contained two *Eucalyptus camaldulensis* (Figure 28) that are classified as potential habitat trees for Black Cockatoos (DBH <500mm).



Figure 27: Example of the vegetation type within Sevenoaks Road



Figure 28: Cockatoo Trees near Sevenoaks Road

3.2.2.8 Thornlie Station and O’Dell Street

Thornlie Station and O’Dell Street contained two vegetation types (Figure 29); they included the following:

- No Native Vegetation which included maintained lawns and garden beds
- Mixed Introduced Herbland and Grasses

Overall, the entirety of the survey area was determined to be in Completely Degraded condition.



Figure 29: Example of the vegetation within the Thornlie Station and O’Dell Street sites

3.2.2.9 Tom Bateman NEWest Alliance Compound

Tom Bateman NEWest Alliance Compound consisted of no native vegetation throughout the entire survey area. Two vegetation types were recorded, maintained lawn and a maintained garden bed. The survey area was classified as being Completely Degraded.

3.2.2.10 Nicholson Road

Nicholson Rd consisted of no native vegetation within the survey area. It mainly consisted of Mixed Introduced Herbland and Grasses and a portion of the road reserve (Figure 30). The entire site is in a Completely Degraded condition.



Figure 30: Example of the vegetation type within Nicholson Rd.

3.2.2.11 McLean Road

McLean Road vegetation type is classified as Open Introduced Herbland consisting of introduced herbs and grasses and one planted *Corymbia calophylla* tree, all other species found on the site were introduced (Figure 31). The entire site is classified as Completely Degraded condition.



Figure 31: Example of the vegetation type within McLean Rd.

3.2.2.12 Marginata Parkway

One vegetation type was found at the Marginata Parkway survey area, Mixed Open Introduced Herbland which consists of introduced herbs and grasses (Figure 32). The entire site is in Completely Degraded condition.



Figure 32: Example of vegetation within Marginata Parkway Site

3.2.2.13 Mesa Place

The Mesa Place survey area contained several non-native portions of maintained lawns and garden beds. The entire site was classed as being in a Completely Degraded condition.

3.2.2.14 Clements Place

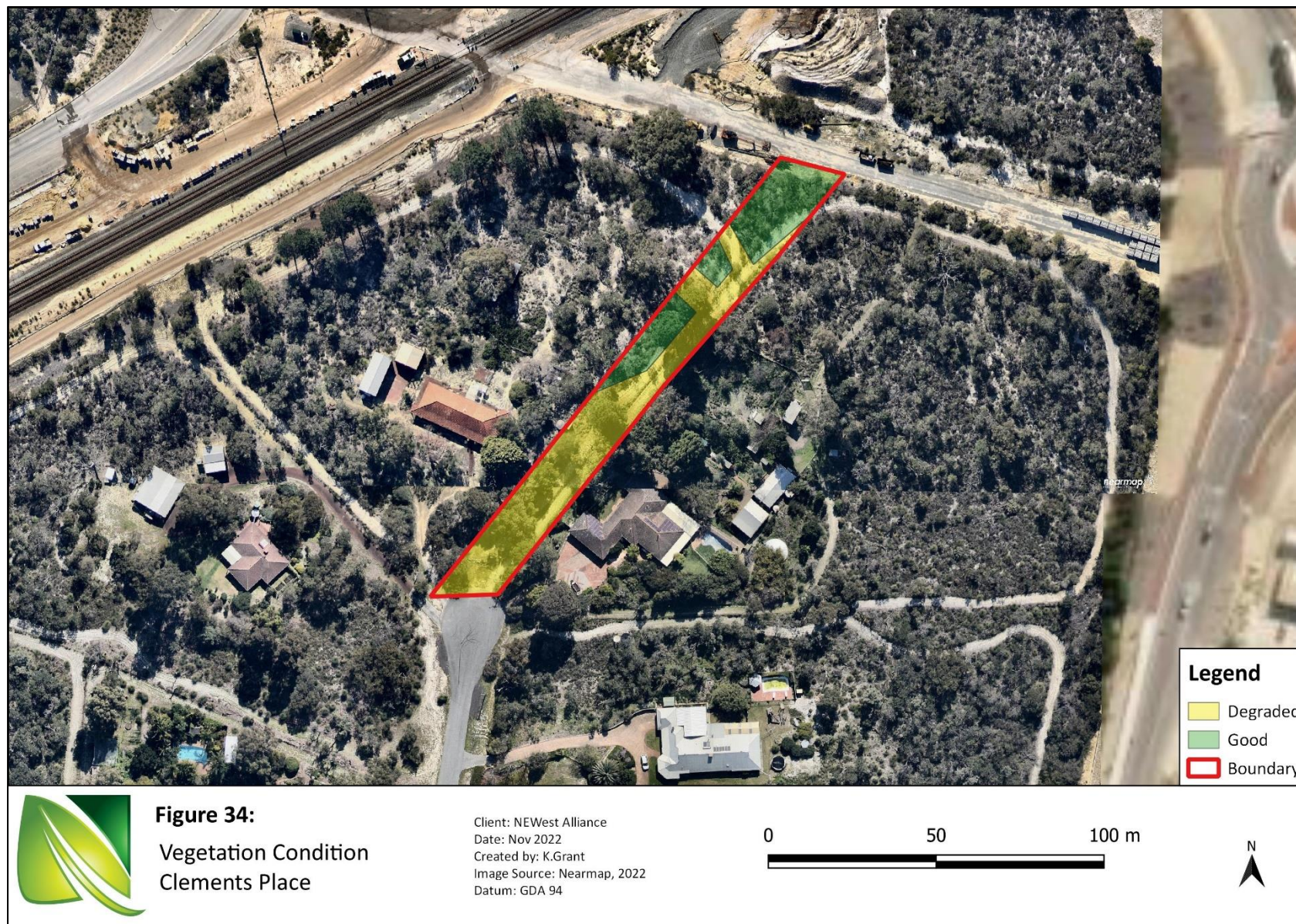
The Clements Place survey area contained one vegetation type of Banksia Woodland. It consisted of *Banksia attenuata* and *Banksia menziesii* over mixed understory. The survey area ranged from Degraded to Good vegetation condition (Table 6) (Figure 33). One potential cockatoo habitat tree was found within the survey area.

Table 6: Vegetation condition for Clements Place

Vegetation Condition	Pristine	Excellent	Very Good	Good	Degraded	Completely Degraded	Total
Area (ha)	0	0	0	0.077	0.188	0	0.265
Area (%)	0	0	0	29	71	0	100



Figure 33: Example of the vegetation within Clements Place



3.2.2.15 Glen Iris Road

The Glen Iris Rd survey area, vegetation type is classified as Geraldton Wax *Chamelaucium uncinatum* over mixed coastal shrubland over mixed introduced grasses and herbs (Figure 35). The entire site is in a Degraded condition.



Figure 35: Example of vegetation within the Glen Iris Rd survey area

3.2.2.16 Albany Highway

Two vegetation types were observed at the Albany Highway survey area (Figure 36). The pocket to the east is classed as *Eucalyptus rudis* and *Corymbia calophylla* over mixed introduced grasses and herbs and the last pocket to the northwest is *Corymbia calophylla* over mixed grasses and herbs. Vegetation condition across the site was classed as Completely Degraded.

3.2.2.17 Edge of Kenwick Wetlands

Two vegetation types were observed at the edge of Kenwick Wetlands survey area (Figure 37). The pocket in the northeast is classed as *Corymbia calophylla* over *Lepidosperma squamatum* and mixed herbs with the remained of the survey area classified as cleared with no native vegetation. Vegetation condition across majority of the site was classed as Completely Degraded, the vegetated portion in the northeast corner was classed as Good (Figure 38, Table 7).

Table 7: Vegetation condition for the edge of Kenwick Wetlands

Vegetation Condition	Pristine	Excellent	Very Good	Good	Degraded	Completely Degraded	Total
Area (ha)	0	0	0	0.05	0.55	0	0.6
Area (%)	0	0	0	9.25	90.75	0	100







3.2.2.18 Extended Portion of Edge of Kenwick Wetland

Two vegetation types were recorded throughout the extended portion of the Edge of Kenwick Wetlands, *Corymbia calophylla* Open Woodland over *Acacia pulchella* and Mixed Introduced Grassland (Figure 39). A portion of the survey site includes railway infrastructure which is completely cleared of vegetation.

Vegetation condition across majority of the site was classed as Completely Degraded, the vegetated portion in the southeast corner was classed as Good and Degraded (Figure 40, Table 8).

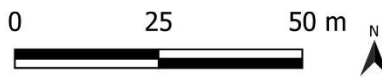
Table 8: Vegetation condition for the extension edge of Kenwick Wetlands

Vegetation Condition	Pristine	Excellent	Very Good	Good	Degraded	Completely Degraded	Total
Area (ha)	0	0	0	0.002	0.007	0.17	0.179
Area (%)	0	0	0	1.12	3.91	94.97	100





Figure 40:
Vegetation Condition
Edge of Kenwick Wetlands



Client: Newest Alliance
Date: Nov 2022
Created by: K. Grant
Image Source: Nearmap, 2022
Datum: GDA 94

3.2.2.19 Kenwick Additional Portion

One vegetation type was found within the survey area, Mixed Open Introduced Grassland and Herbland which consists of introduced herbs and grasses (Figure 41). The railway infrastructure of the site is completely cleared of vegetation. The entire site is in Completely Degraded condition.



Figure 41: Example of vegetation within the Kenwick Additional Portion

3.2.3 Threatened and Priority Communities

Based on the vegetation type identified and the flora species composition of the survey, only the threatened ecological community (TEC), *Banksia* Woodlands of the Swan Coastal Plain ecological community, listed under the *EPBC Act 1999* has the potential to occur in one of the survey areas, Clements Place. The survey site alone is not classed as a TEC as it does not meet the minimum patch size and vegetation condition requirement, although surrounding areas which were not surveyed, may categorise this site as a TEC as the survey area appears as it is part of a larger patch of potential *Banksia* Woodland TEC. For a patch to be considered as part of the EPBC Act threatened ecological community, the patch needs to be at least 2 ha and in at least Good vegetation condition. As the entire patch at Clements place was not surveyed, as portions are within private property, no definite determination can be made if the site constitutes the threatened ecological community (TEC) *Banksia* Woodlands of the Swan Coastal Plain ecological community. Further surveys would be required to determine the patch extent and condition.

3.2.4 Black Cockatoo Habitat Assessment

Five potential habitat trees for Black Cockatoos (DBH \geq 500 mm) were recorded in the Spring 2022 survey, none of which contained hollows (Figure 42 to 45). These included:

- Two *Eucalyptus camaldulensis* within the Sevenoaks Street survey area
- One *Eucalyptus camaldulensis* within the Burham Rd survey area
- One *Corymbia calophylla* within Clements Place
- One *Eucalyptus marginata* within the North Lake Rd survey area.

A Black Cockatoo foraging habitat scoring tool (Department of Agriculture, Water and the Environment, 2022) was applied to determine the quality of Black Cockatoo foraging habitat (Table 9). This scoring tool assigns a habitat score between one and ten, with a score of ten representing the maximum possible and very high quality of foraging habitat. Contextual adjustors (attributes that improve or reduce functionality of foraging habitat) such as tree species composition, availability of nesting hollows, distances from known breeding and roosting sites, were considered and used to evaluate habitat quality. The scoring matrix was applied to the

survey areas where potential habitat trees are recorded. Sites include Sevenoaks Street, Burham Rd, Clements Place and North Lake Rd. Due to their close proximity, all four sites are assessed as a single site.

Due to their small sizes (less than 1 hectare), the Black Cockatoo foraging habitat tool is not applicable to the proposed clearing sites as the tool only applies to sites equal to or larger than 1 hectare in size. However, due to individual foraging plants with no evidence of feeding debris on site, it is considered for the proposed clearing site to be of low quality foraging value.







Figure 44:
Habitat Tree
North Lake Road

Client: NEWest Alliance
Date: Nov 2022
Created by: K. Grant
Image Source: Nearmap, 2022
Datum: GDA 94

0 10 20 m



Legend


 Eucalyptus marginata



Figure 45:
Habitat Tree
Burham Road

Client: NEWest Alliance
Date: Nov 2022
Created by: K. Grant
Image Source: Nearmap, 2022
Datum: GDA 94



Table 9: Foraging quality scoring tool template

Starting score	Baudin's Cockatoo	Carnaby's Cockatoo	Forest Red-tailed Black-Cockatoo
10	Start at a score of 10 if your site is native eucalypt woodlands and forest, and proteaceous woodland and heath, particularly Marri, within the range of the species, including along roadsides and parkland cleared areas. Can include planted vegetation. This tool only applies to sites equal to or larger than 1 hectare in size.	Start at a score of 10 if your site is native shrubland, kwongan heathland or woodland, dominated by proteaceous plant species such as Banksia spp. (including Dryandra spp.), Hakea spp. and Grevillea spp., as well as native eucalypt woodland and forest that contains foraging species, within the range of the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. This tool only applies to sites equal to or larger than 1 hectare in size.	Start at a score of 10 if your site is Jarrah or Marri woodland and/or forest, or if it is on the edge of Karri forest, or if Wandoo and Blackbutt occur on the site, within the range of the subspecies, including along roadsides and parkland cleared areas. This tool only applies to sites equal to or larger than 1 hectare in size.
Attribute	Sub-tractions	Context adjustor (attributes reducing functionality of foraging habitat)	
Foraging potential	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.
Connectivity	-2	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.
Proximity to breeding	-2	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.
Proximity to roosting	-1	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.
Impact from significant plant disease	-1	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.
Total score		Enter score	Enter score
Appraisal		To support your habitat score, you should provide an overall appraisal of the habitat on the impact site and within 20km of the impact area to clearly explain and justify the score. It should include discussion on the foraging habitat's proximity to other resources (e.g. exact distance to proximate resources), frequency of use of proximate sites, the degree of evidence and description of vegetation type and condition.	

4.0 Implications of Results

4.1 Flora and Vegetation

Natural Area's 2022 survey of the site recorded 163 flora species (taxa) from 53 families including 94 introduced species (57.7%), three dubious (1.8%) species and 66 native (40.5%) species.

4.1.1 Waratah Boulevard

Natural Area's 2022 survey of Waratah Boulevard recorded a total of 20 flora species (taxa) from nine families. One vegetation type was identified across the site, Open Mixed Introduced Herbland. The vegetation condition across the site was Completely Degraded.

4.1.2 Leeming Road

Natural Area's 2022 survey of Leeming Road recorded a total of 28 flora species (taxa) from 14 families, all were introduced (100%) species. One vegetation type was identified across the site, Open Mixed Introduced Herbland. The vegetation condition across the site was Completely Degraded.

4.1.3 Turtle Cove Point

Natural Area's 2022 survey of Turtle Cove recorded a total of 16 flora species (taxa) from ten families, all were introduced (100%) species. One vegetation type was identified across the site, Open Mixed Introduced Herbland. The vegetation condition across the site was Completely Degraded.

4.1.4 North Lake Rd

Natural Area's 2022 survey of North Lake Rd recorded a total of 22 flora species (taxa) from nine families, 21 were introduced (95.4%) species and one (4.6%) native tree was present. One vegetation type was identified across the site, Mixed Open Introduced Herbland. The vegetation condition across the site was Completely Degraded.

4.1.5 Elliott Place

Natural Area's 2022 survey of Elliott Place recorded a total of seven species (taxa) from six families, all were introduced (100%) species. One vegetation type was identified across the site, maintained lawn. The vegetation condition of the site was Completely Degraded.

4.1.6 Burham Road

Natural Area's 2022 survey recorded a total of 17 species (taxa) from eight families, all apart from two dubious/planted species recorded were introduced weeds. No conservation significant species were recorded. One vegetation type was observed, **Melia azedarach* over mixed introduced grasses and herbs, with the condition of Completely Degraded. One potential habitat tree was marked within the site.

4.1.7 Sevenoaks Road

Natural Area's 2022 survey of Sevenoaks Road recorded a total of 12 species (taxa) from six families, all were introduced species. One vegetation type was identified across the site Open *Eucalyptus camaldulensis* over mixed grasses. The vegetation condition was completely Degraded.

4.1.8 Thornlie Station and O'Dell Street

Natural Area's 2022 survey recorded a total of 28 species (taxa) from 10 families, 26 were introduced (92.5%) and two were native (7.5%) species. No conservation significant flora was recorded. The vegetation condition across the site was Completely Degraded.

The survey site consisted of several small pockets and two vegetation types were identified:

- No Native Vegetation which included maintained lawns and garden beds
- Mixed Introduced Herbland and Grasses.

4.1.9 Tom Bateman NEWest Alliance Compound

A total of 14 species (taxa) from five families were recorded during the field survey. All were introduced (weed) species. No conservation significant flora was recorded onsite.

4.1.10 Nicholson Road

A total of 14 species (taxa) from five families were recorded during the field survey. All were introduced (weed) species. No conservation significant flora was recorded onsite during the Spring 2022 survey. Vegetation type within the site consisted of Mixed Introduced Herbland and Grasses and a portion of the road reserve. The entire site is in Completely Degraded condition.

4.1.11 McLean Road

A total of 13 species (taxa) from six families were recorded during the field survey. This included 12 weed species (92.3%) and one native (7.7%) species. No conservation significant flora was recorded onsite during the Spring 2022 survey. Vegetation type is classified as Open Introduced Herbland consisting of introduced herbs and grasses and one planted *Corymbia calophylla* tree. The entire site is classified as Completely Degraded condition.

4.1.12 Marginata Parkway

A total of six species (taxa) from four families were recorded during the field survey. All were introduced (weeds) species. No conservation significant flora was recorded onsite during the Spring 2022 survey. One vegetation type was present, Mixed Open Introduced Herbland which consists of introduced herbs and grasses. The entire site is in Completely Degraded condition.

4.1.13 Mesa Place

A total of four species (taxa) from four families were recorded during the field survey. All were introduced (weeds) species. No conservation significant flora was recorded onsite during the Spring 2022 survey. The survey area contained several non-native portions of maintained lawns and garden beds. The entire site was classed as being in a Completely Degraded condition.

4.1.14 Clements Place

A total of 69 species (taxa) from 31 families were recorded during the field survey. This includes 31 introduced (weeds, 45%) and 38 native species (55%). No conservation significant flora was recorded onsite during the Spring 2022 survey. One vegetation type of Banksia Woodland was present within the site. The survey area ranged from Degraded to Good vegetation condition. One potential cockatoo habitat tree was present within the survey area.

4.1.15 Glen Iris Road

A total of 42 species (taxa) from 14 families were recorded during the field survey, 24 are introduced (weeds, 57%) species and 18 (43%) are native species. No conservation significant flora was recorded onsite during the Spring 2022 survey. The vegetation type within this site is classified as Geraldton Wax (**Chamaelucium uncinatum*) over mixed coastal shrubland over mixed introduced grasses and herbs. The entire site is in a Degraded condition.

4.1.16 Albany Highway

A total of 20 species (taxa) from 10 families were recorded during the field survey. One species was recorded as dubious (5%), two native flora species (10%) and 17 introduced weed species (85%). No conservation significant flora was recorded onsite during the Spring 2022 survey. Two vegetation types were observed, *Eucalyptus rudis* and *Corymbia calophylla* over mixed introduced grasses and herbs and *Corymbia calophylla* over mixed grasses and herbs. Vegetation condition across the site was classed as Completely Degraded.

4.1.17 Ranford Road

No vegetation was recorded at Ranford Rd, the survey site was located within the road verge.

4.1.18 Edge of Kenwick Wetlands

A total of 33 species (taxa) from 15 families were recorded during the field survey. Of the species recorded, 19 (57.6%) were introduced (weed) species and 14 (42.4%) were native species. No conservation significant flora was recorded onsite during the Spring 2022 survey. Two declared pests Narrowleaf Cottonbush (**Gomphocarpus fruticosus*) and Paterson's Curse (**Echium plantagineum*) were observed within the survey area. These species are listed under the *Biosecurity and Agriculture Management Act 2007 (WA)* and requires landowners/managers to undertake control. Two vegetation types were observed, *Corymbia calophylla* over *Lepidosperma squamatum* and mixed herbs with the remained of the survey area classified as cleared with no native vegetation. Vegetation condition across the site was classed as Completely Degraded within the area containing no native vegetation, and Good in the *Corymbia calophylla* over *Lepidosperma squamatum* vegetation type.

4.1.1.19 Extended Portion of Edge of Kenwick Wetland

A total of 40 (taxa) species from 15 families were recorded during the field survey, this site was an extended portion added on for the 23rd of November 2022 survey. This species total included 15 (37.5%) native species and 25 introduced species (62.5%), including one declared pest Paterson's Curse (**Echium plantagineum*) (Appendix 5). This species is listed under the *Biosecurity and Agriculture Management Act 2007 (WA)* and requires landowners/managers to undertake control. Two vegetation types were recorded, *Corymbia calophylla* Open Woodland over *Acacia pulchella* and Mixed Introduced Grassland. A portion of the survey area included cleared vegetation for railway infrastructure. Vegetation condition across majority of the site was classed as Completely Degraded, the small, vegetated portion in the southeast corner was classed as Good and Degraded.

4.1.1.20 Kenwick Additional Portion

A total of 13 flora species from six families were recorded during the field survey, this survey area was an additional portion added during the 23rd of November 2022 survey. This included a total of 12 (92.3%) weed species and one native species (7.7%). One vegetation type was present within the survey area, Mixed Open

Introduced Grassland and Herbland which consists of introduced herbs and grasses. The entire site is in a Completely Degraded condition.

4.2 Significant Locations

Tom Bateman Newest Compound and Edge of Kenwick Wetland (including the extension survey area) is in close proximity to a Conservation Category Wetland (Feature ID 16099 and 13365 Brixton Street Swamp). A 50 m buffer is typically recommended to protect Conservation Category Wetlands and its associated environmental values (DBCA, 2022d). However, the proposed clearing site of Tom Bateman Newest Compound has low environmental value based on its Completely Degraded vegetation condition, and presence of only non-native flora species and the majority of the site consisting of existing roadway. Its proximity to existing infrastructures (Wilfred Road and NEWest Alliance site office), combined with its degraded nature implies its current limited function as a wetland buffer. However, common threats to wetlands, including altered hydrology, water and soil pollution should be appropriately addressed to ensure the wetland is not impacted by the proposed activity. Tom Bateman Newest Compound is located within a Bush Forever Area Site 456.

The Edge of Kenwick Wetland entire survey site (including the extension survey area) occurs within a Multiple Use wetland and is mostly in a Completely Degraded condition with a small portion containing native vegetation in Good condition (0.05 ha). The site is considered to have a moderate to low environmental value as it does provide a buffer zone between existing infrastructure and the conservation category wetland immediately adjacent to it, although the majority of the site is Completely Degraded and 62.7% of plant species recorded being introduced (weeds).

The following sites occur within close proximity to the following significant locations:

- Resource Enhancement Wetland
 - McLean Road
- Multiple Use Wetland
 - Elliot Place.

The following sites occur within the following significant locations:

- Multiple Use Wetland
 - Burham Road
 - Mesa Place
 - Nicholson Road
 - Edge of Kenwick Wetlands
 - Extension of edge of Kenwick Wetlands
 - Kenwick Additional Portion
- Resource Enhancement Wetland
 - Portions of the O'Dell Street site
 - Ranford Road and Waratah Boulevard.

4.3 Threatened and Ecological Communities

There is potential for the threatened ecological community (TEC) *Banksia* Woodlands of the Swan Coastal Plain ecological community, listed under the *EPBC Act 1999* to be present at the Clements Place site. The proposed clearing area alone would not be classified as a TEC as it does not meet the minimum patch size and vegetation condition requirement, although surrounding areas which were not surveyed, may categorise this site as a TEC. Through assessment of aerial imagery, the survey area appears to be part of a larger patch of potential *Banksia* Woodland. As the entire patch at Clements place was not surveyed, as portions are within private property, further surveys would be required to determine the patch extent and condition and if the area meets the requirement for the TEC classification.

4.4 Black Cockatoo Habitat Assessment

While five potential habitat trees (greater than 500 mm DBH) occur across four of the survey sites, none exhibited any hollows suitable for black cockatoo breeding. Lack of feeding evidence in the form of chewed nuts indicate that cockatoos are not likely to be utilising the sites for foraging. The foraging habitat scoring tool (Department of Agriculture, Water and the Environment, 2022) is not applicable due to the small sizes of the survey areas (less than 1 hectare). However, individual and/or small isolated stands of suitable plant species and lack of foraging evidence suggests that the survey sites have low foraging value for black cockatoos.

The five habitat trees may still provide potential roosting sites for black cockatoos as known roosting sites are known to occur within the vicinity. They include:

- Black Cockatoo Roosting Sites – Buffered (DBCA-064) (Clements Place, Turtle Point Cove, Ranford Road and Glen Iris)
- Carnaby’s Cockatoo Unconfirmed Roost Sites Buffered 6 km (DBCA-053) (Ranford Rd, Waratah Boulevard, 42 Marginata Parkway, Mesa Place, McLean Rd and Nicholson Rd).

4.5 Assessment against Clearing Principles

An assessment of information obtained during the 2022 survey has been made against the 10 clearing principles. It is suggested that the clearing application may be at variance with five (B, D, E, F, H) of the ten clearing principles (Table 10).

Clearing Principles	Comment
<p>A Native vegetation should not be cleared if it comprises a high level of biological diversity</p>	<p>The proposed clearing is not likely to be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ the survey recorded a total of 163 flora species (taxa) from 53 families including three dubious species, 94 introduced (weed) and 66 native species were recorded over the several sites that were surveyed ▪ no conservation significant flora species were recorded during the Spring 2022 surveys ▪ no individuals of the threatened, <i>Caladenia huegellii</i> were observed in the 2022 Spring targeted surveys ▪ almost all sites are in a Completely Degraded or Degraded vegetation condition with introduced non-native species as the dominant taxa ▪ Clements Place had 0.077 ha (29%) of Banksia Woodland vegetation type in Good condition, with the remaining 71% in a Degraded vegetation condition ▪ the edge of Kenwick Wetlands is in 9.25% Good condition, with the remained in Completely Degraded condition. The majority of the extended portion of the edge of Kenwick Wetlands was classified as Completely Degraded. The other portion were classed as Good (1.12%) and Degraded (3.91%) condition.
<p>B Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.</p>	<p>The proposed clearing may be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ no black cockatoo individuals or evidence of feeding were observed during survey activities ▪ five potential habitat trees (DBH greater than 500 mm) were present at North Lake, Burham Rd, Clements Place and Sevenoaks Rd sites ▪ the survey sites occur within the following: <ul style="list-style-type: none"> - Black Cockatoo Roosting Sites – Buffered (DBCA-064) (Clements Place, Turtle Point Cove, Ranford Road, Kenwick Additional Portion, and Glen Iris) - Carnaby’s Cockatoo Areas requiring investigation as feeding habitat in the Swan Coastal Plain (SCP) IBRA Region (DBCA-057) (portion of Clements Place and a portion of Leeming Rd) - Carnaby’s Cockatoo Unconfirmed Roost Sites Buffered 6 km (DBCA-053) (Ranford Rd, Waratah Boulevard, 42 Marginata Parkway, Mesa Place, McLean Rd and Nicholson Rd)

Clearing Principles	Comment
	<ul style="list-style-type: none"> - Carnaby’s Cockatoo Confirmed Breeding Areas within Swan Coastal Plain and Jarrah Forest IBRA Regions (DBCA-054) (Nicholson Rd, Tom Bateman Newest Compound, Elliot Place, Thornlie Train Station, O’Dell Street, Albany Hwy and Burham Rd, Edge of Kenwick Wetlands, Extended Portion of Edge of Kenwick Wetlands, Kenwick Additional Portion, and Sevenoaks St) - Carnaby’s Cockatoo Confirmed Roost Sites Buffered 6 km (DBCA-052) (North Lake Rd, Clements Place, Leeming Rd, Turtle Point Cove, Glen Iris, Ranford Rd, Waratah Boulevard, Mesa Place, McLean Rd, Nicholson Rd, Tom Bateman Newest Compound and Elliot Place).
<p>C Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.</p>	<p>The proposed clearing is not likely to be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ no significant flora was recorded during the September and November 2022 surveys ▪ the majority of the sites surveyed are in historically disturbed and in a currently completely degraded condition, with small portions of the sites surveyed in Good condition.
<p>D Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community</p>	<p>The proposed clearing may be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ one of the sites (Clements Place) forms a continuous patch with a potential larger Banksia Woodland, in which from a visual assessment, potentially could be classified as a threatened ecological community (TEC) ▪ further detailed flora analysis, including a detailed flora survey of the site as well as mapping the vegetation type extent and condition would be required to determine if the patch qualifies a TEC.
<p>E Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area</p>	<p>The proposed clearing may be at variance with this clearing principle:</p> <ul style="list-style-type: none"> ▪ the survey site resides within the Swan Coastal Plain which has been historically extensively cleared ▪ Vegetation Complex covered by the survey area and the remaining vegetation is as follows within the Swan Coastal Plain: <ul style="list-style-type: none"> - Bassendean Complex- Central and South; 26.87% - Swan;13.57%

Clearing Principles	Comment
<p>that has been extensively cleared.</p>	<ul style="list-style-type: none"> - Karrakatta Central and South; 23.49% - Guildford; 5.09% - Southern River; 18.43% ▪ the proposed clearing consists of sites that are mostly classified as Degraded or Completely Degraded with little to no native vegetation composition due to the historic disturbance of the site ▪ Clements Place was in a Good to Degraded vegetation condition and a portion of the Edge of Kenwick Wetland site in Good condition.
<p>F Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.</p>	<p>The proposed clearing may be at variance with this clearing principle:</p> <ul style="list-style-type: none"> ▪ some survey sites do not occur or are associated with a watercourse or riparian vegetation, although some of the sites are associated with or in close proximity to classified wetland areas ▪ The following sites occur within close proximity to the following significant locations: <ul style="list-style-type: none"> - Resource Enhancement Wetland <ul style="list-style-type: none"> ▪ McLean Road - Multiple Use Wetland <ul style="list-style-type: none"> ▪ Elliot Place. ▪ The following sites occur within the following significant locations: <ul style="list-style-type: none"> - Multiple Use Wetland <ul style="list-style-type: none"> ▪ Burham Road ▪ Mesa Place ▪ Nicholson Road ▪ Edge of Kenwick Wetland and extension of edge of Kenwick Wetlands ▪ Kenwick Additional Portion - Resource Enhancement Wetland <ul style="list-style-type: none"> ▪ Portions of the O’Dell Street site ▪ Ranford Road and Waratah Boulevard.
<p>G Native Vegetation should not be cleared if</p>	<p>The proposed clearing is not likely to be at variance with this clearing principle:</p>

Clearing Principles	Comment
<p>the clearing of the vegetation is likely to cause appreciable land degradation.</p>	<ul style="list-style-type: none"> ▪ The majority of vegetation is already degraded (fragmented vegetation and high weed load) and therefore is likely not to cause further land degradation within the area.
<p>H Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.</p>	<p>The proposed clearing may be at variance with this clearing principle:</p> <ul style="list-style-type: none"> ▪ Tom Bateman Newest Compound is located within an Environmentally Sensitive Area (ESA), ID 18559 and Bush Forever Area Site 456 ▪ Edge of Kenwick Wetland (including the extension survey area) is in close proximity to a Conservation Category Wetland (Feature ID 13365 Brixton Street Swamp) and to Bush Forever Site 387. It is located within the ESA ID10047 and 17267. ▪ Thornlie Train Station and O’Dell Street, particular O’Dell Street (northern portion) is located within an ESA, ID 18800 and Bush Forever Area Site 246 ▪ Leeming Rd is located within Bush Forever Site 388 and 245 and spans across three ESA’s (ID 18610, 11849, 18594) ▪ Albany Highway and Burham Rd is located with two ESA’s (ID 10047 and 10051) ▪ Sevenoaks St is located with an ESA (ID 10051) ▪ The following sites occur within close proximity to the following significant locations: <ul style="list-style-type: none"> - Resource Enhancement Wetland <ul style="list-style-type: none"> ▪ McLean Road - Multiple Use Wetland <ul style="list-style-type: none"> ▪ Elliot Place ▪ The following sites occur within the following significant locations: <ul style="list-style-type: none"> - Multiple Use Wetland <ul style="list-style-type: none"> ▪ Burham Road ▪ Mesa Place ▪ Nicholson Road ▪ Edge of Kenwick Wetland and extension of edge of Kenwick Wetlands

Clearing Principles	Comment
	<ul style="list-style-type: none"> ▪ Kenwick Additional Portion - Resource Enhancement Wetland <ul style="list-style-type: none"> ▪ Portions of the O’Dell Street site ▪ Ranford Road and Waratah Boulevard.
<p>I Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or groundwater.</p>	<p>The proposed clearing is not likely to be at variance with this clearing principle:</p> <ul style="list-style-type: none"> ▪ the clearing of the proposed sites is not expected to cause deterioration in the surface or ground water quality as they consist of small, isolated patches of mostly Degraded to Completely Degraded areas with high weed loads ▪ small portions of the sites surveyed contain vegetation classified in Good condition.
<p>J Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.</p>	<p>The proposed clearing is not likely to be at variance with this clearing principle:</p> <ul style="list-style-type: none"> ▪ the clearing of the proposed sites is not expected to change or exacerbate the incidence of flooding ▪ the clearing of the proposed sites are multiple small portions located along the existing railway corridor and near other infrastructure such as roads and is not expected to change or exacerbate the incidence of flooding.

5.0 References

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Appendix 1: PMST Report 10km



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 01-Nov-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

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Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	2
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	70
Listed Migratory Species:	53

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	133
Commonwealth Heritage Places:	1
Listed Marine Species:	59
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	18
Regional Forest Agreements:	None
Nationally Important Wetlands:	6
EPBC Act Referrals:	65
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [\[Resource Information \]](#)

Ramsar Site Name	Proximity	Buffer Status
Forrestdale and thomsons lakes	Within Ramsar site	In feature area
Peel-yalgorup system	40 - 50km upstream from Ramsar site	In buffer area only

Listed Threatened Ecological Communities [\[Resource Information \]](#)

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area	In feature area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area	In buffer area only
Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [\[Resource Information \]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area	In buffer area only
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In buffer area only
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Zanda baudinii listed as Calyptorhynchus baudinii Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]	Endangered	Roosting known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Zanda latirostris listed as Calyptorhynchus latirostris			
Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area	In feature area
FISH			
Thunnus maccoyii			
Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
INSECT			
Leioproctus douglasiellus			
a short-tongued bee [66756]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Neopasiphae simplicior			
A native bee [66821]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
MAMMAL			
Bettongia penicillata ogilbyi			
Woylie [66844]	Endangered	Species or species habitat may occur within area	In buffer area only
Dasyurus geoffroii			
Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
Neophoca cinerea			
Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat known to occur within area	In buffer area only
Pseudocheirus occidentalis			
Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Setonix brachyurus			
Quokka [229]	Vulnerable	Species or species habitat may occur within area	In buffer area only
OTHER			
Westralunio carteri			
Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
PLANT			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Acacia anomala Grass Wattle, Chittering Grass Wattle [8153]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Acacia aphylla Leafless Rock Wattle [13553]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat known to occur within area	In feature area
Austrostipa bronwenae [87808]	Endangered	Species or species habitat known to occur within area	In buffer area only
Austrostipa jacobsiana [87809]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Banksia mimica Summer Honey-pot [82765]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat known to occur within area	In feature area
Calytrix breviseta subsp. breviseta Swamp Starflower [23879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chamelaucium sp. Gingin (N.G.Marchant 6) Gingin Wax [88881]	Endangered	Species or species habitat may occur within area	In buffer area only
Conospermum undulatum Wavy-leaved Smokebush [24435]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Darwinia apiculata Scarp Darwinia [8763]	Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diplolaena andrewsii [6601]	Endangered	Species or species habitat may occur within area	In buffer area only
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat known to occur within area	In feature area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leafed Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area	In feature area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Eremophila glabra subsp. chlorella [84927]	Endangered	Species or species habitat known to occur within area	In buffer area only
Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Goodenia arthrotricha [12448]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Grevillea thelemanniana Spider Net Grevillea [32835]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Lepidosperma rostratum Beaked Lepidosperma [14152]	Endangered	Species or species habitat known to occur within area	In buffer area only
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat known to occur within area	In buffer area only
Ptilotus pyramidatus Pyramid Mulla-mulla [18216]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Synaphea sp. Pinjarra Plain (A.S. George 17182) [86878]	Endangered	Species or species habitat may occur within area	In buffer area only
Synaphea sp. Serpentine (G.R. Brand 103) [86879]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat known to occur within area	In buffer area only
REPTILE			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

SHARK

Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only

Listed Migratory Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Marine Species			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area	In feature area
Calidris alba Sanderling [875]		Roosting known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area	In buffer area only
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area	In buffer area only
Charadrius dubius Little Ringed Plover [896]		Roosting known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In buffer area only
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area	In buffer area only
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In buffer area only
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area	In buffer area only
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area	In buffer area only
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area	In buffer area only
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Lands

[[Resource Information](#)]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Defence		
Defence - AIRTC CANNINGTON [50229]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50232]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50233]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50230]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50231]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50206]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50207]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50208]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50209]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50225]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50224]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50227]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50226]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50221]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50220]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50223]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50204]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50203]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50202]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50201]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50205]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50228]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - HOLDFAST BARRACKS [50222]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50214]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50215]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50216]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50217]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50210]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50213]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50219]	WA	In buffer area only
Defence - HOLDFAST BARRACKS [50218]	WA	In buffer area only
Unknown		
Commonwealth Land - [51900]	WA	In buffer area only
Commonwealth Land - [51901]	WA	In buffer area only
Commonwealth Land - [51426]	WA	In buffer area only
Commonwealth Land - [51427]	WA	In buffer area only
Commonwealth Land - [51180]	WA	In buffer area only
Commonwealth Land - [51425]	WA	In buffer area only
Commonwealth Land - [50792]	WA	In buffer area only
Commonwealth Land - [51148]	WA	In buffer area only
Commonwealth Land - [50793]	WA	In buffer area only
Commonwealth Land - [50756]	WA	In buffer area only
Commonwealth Land - [50750]	WA	In buffer area only
Commonwealth Land - [50751]	WA	In buffer area only
Commonwealth Land - [50754]	WA	In buffer area only
Commonwealth Land - [50755]	WA	In buffer area only
Commonwealth Land - [51155]	WA	In buffer area only
Commonwealth Land - [50736]	WA	In buffer area only
Commonwealth Land - [51417]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51416]	WA	In buffer area only
Commonwealth Land - [50733]	WA	In buffer area only
Commonwealth Land - [50844]	WA	In buffer area only
Commonwealth Land - [50735]	WA	In buffer area only
Commonwealth Land - [51158]	WA	In buffer area only
Commonwealth Land - [50734]	WA	In buffer area only
Commonwealth Land - [50843]	WA	In buffer area only
Commonwealth Land - [50848]	WA	In buffer area only
Commonwealth Land - [51156]	WA	In buffer area only
Commonwealth Land - [51152]	WA	In buffer area only
Commonwealth Land - [51153]	WA	In buffer area only
Commonwealth Land - [51150]	WA	In buffer area only
Commonwealth Land - [51151]	WA	In buffer area only
Commonwealth Land - [50732]	WA	In buffer area only
Commonwealth Land - [50731]	WA	In buffer area only
Commonwealth Land - [50730]	WA	In buffer area only
Commonwealth Land - [50799]	WA	In buffer area only
Commonwealth Land - [50798]	WA	In buffer area only
Commonwealth Land - [50795]	WA	In buffer area only
Commonwealth Land - [50794]	WA	In buffer area only
Commonwealth Land - [50797]	WA	In buffer area only
Commonwealth Land - [50796]	WA	In buffer area only
Commonwealth Land - [51146]	WA	In buffer area only
Commonwealth Land - [51899]	WA	In buffer area only
Commonwealth Land - [51147]	WA	In buffer area only
Commonwealth Land - [50788]	WA	In buffer area only
Commonwealth Land - [50729]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50725]	WA	In buffer area only
Commonwealth Land - [50721]	WA	In buffer area only
Commonwealth Land - [50722]	WA	In buffer area only
Commonwealth Land - [50779]	WA	In buffer area only
Commonwealth Land - [50809]	WA	In buffer area only
Commonwealth Land - [50774]	WA	In buffer area only
Commonwealth Land - [51287]	WA	In buffer area only
Commonwealth Land - [51149]	WA	In buffer area only
Commonwealth Land - [50742]	WA	In buffer area only
Commonwealth Land - [50743]	WA	In buffer area only
Commonwealth Land - [50740]	WA	In buffer area only
Commonwealth Land - [50741]	WA	In buffer area only
Commonwealth Land - [51165]	WA	In buffer area only
Commonwealth Land - [51160]	WA	In buffer area only
Commonwealth Land - [51163]	WA	In buffer area only
Commonwealth Land - [50745]	WA	In buffer area only
Commonwealth Land - [50749]	WA	In buffer area only
Commonwealth Land - [51975]	WA	In buffer area only
Commonwealth Land - [51159]	WA	In buffer area only
Commonwealth Land - [50814]	WA	In buffer area only
Commonwealth Land - [50833]	WA	In buffer area only
Commonwealth Land - [51514]	WA	In buffer area only
Commonwealth Land - [50866]	WA	In buffer area only
Commonwealth Land - [50865]	WA	In buffer area only
Commonwealth Land - [50824]	WA	In buffer area only
Commonwealth Land - [50867]	WA	In buffer area only
Commonwealth Land - [50872]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50870]	WA	In buffer area only
Commonwealth Land - [51421]	WA	In buffer area only
Commonwealth Land - [50864]	WA	In buffer area only
Commonwealth Land - [50816]	WA	In buffer area only
Commonwealth Land - [50817]	WA	In buffer area only
Commonwealth Land - [50836]	WA	In buffer area only
Commonwealth Land - [50835]	WA	In buffer area only
Commonwealth Land - [50786]	WA	In buffer area only
Commonwealth Land - [50837]	WA	In buffer area only
Commonwealth Land - [51143]	WA	In buffer area only
Commonwealth Land - [50789]	WA	In buffer area only
Commonwealth Land - [50782]	WA	In buffer area only
Commonwealth Land - [51142]	WA	In buffer area only
Commonwealth Land - [50787]	WA	In buffer area only
Commonwealth Land - [50784]	WA	In buffer area only
Commonwealth Land - [50785]	WA	In buffer area only
Commonwealth Land - [50832]	WA	In buffer area only
Commonwealth Land - [50819]	WA	In buffer area only
Commonwealth Land - [50766]	WA	In buffer area only
Commonwealth Land - [51179]	WA	In buffer area only
Commonwealth Land - [50781]	WA	In buffer area only
Commonwealth Land - [50790]	WA	In buffer area only
Commonwealth Land - [50763]	WA	In buffer area only
Commonwealth Land - [50820]	WA	In buffer area only
Commonwealth Land - [50821]	WA	In buffer area only
Commonwealth Land - [50838]	WA	In buffer area only
Commonwealth Land - [51144]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50780]	WA	In buffer area only
Commonwealth Land - [50791]	WA	In buffer area only
Commonwealth Land - [50762]	WA	In buffer area only
Commonwealth Land - [50761]	WA	In buffer area only

Commonwealth Heritage Places			[Resource Information]
Name	State	Status	Buffer Status
Historic			
Victoria Park Post Office	WA	Listed place	In buffer area only

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus			
Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Arenaria interpres			
Ruddy Turnstone [872]		Roosting known to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]		Roosting known to occur within area	In feature area
Calidris alba			
Sanderling [875]		Roosting known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area overfly marine area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area overfly marine area	In buffer area only
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area overfly marine area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area overfly marine area	In buffer area only
Charadrius dubius Little Ringed Plover [896]		Roosting known to occur within area overfly marine area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In buffer area only
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area	In buffer area only
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area overfly marine area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area overfly marine area	In buffer area only
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area	In buffer area only
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In buffer area only
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area	In buffer area only
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area overfly marine area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area overfly marine area	In buffer area only
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area overfly marine area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area	In buffer area only
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area overfly marine area	In buffer area only

Mammal

Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat known to occur within area	In buffer area only
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Reptile

Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Alfred Cove	Nature Reserve	WA	In buffer area only
Balannup Lake	Nature Reserve	WA	In buffer area only

Protected Area Name	Reserve Type	State	Buffer Status
Canning River	Management Area	WA	In buffer area only
Forrestdale Lake	Nature Reserve	WA	In buffer area only
Gibbs Road	Nature Reserve	WA	In buffer area only
Kenwick Wetlands	Nature Reserve	WA	In buffer area only
Milyu	Nature Reserve	WA	In buffer area only
Piara	Nature Reserve	WA	In buffer area only
Swan Estuary - Alfred Cove	Marine Park	WA	In buffer area only
Swan Estuary - Milyu	Marine Park	WA	In buffer area only
Swan River	Management Area	WA	In buffer area only
Thomsons Lake	Nature Reserve	WA	In buffer area only
Unnamed WA44414	5(1)(g) Reserve	WA	In buffer area only
Unnamed WA49299	Nature Reserve	WA	In buffer area only
Unnamed WA49362	Nature Reserve	WA	In buffer area only
Unnamed WA49363	Conservation Park	WA	In buffer area only
Unnamed WA49561	Conservation Park	WA	In buffer area only
Unnamed WA53313	Conservation Park	WA	In buffer area only

Nationally Important Wetlands [\[Resource Information \]](#)

Wetland Name	State	Buffer Status
Booragoon Swamp	WA	In buffer area only
Brixton Street Swamps	WA	In buffer area only
Forrestdale Lake	WA	In buffer area only
Gibbs Road Swamp System	WA	In buffer area only
Swan-Canning Estuary	WA	In buffer area only
Thomsons Lake	WA	In buffer area only

EPBC Act Referrals [\[Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Cockburn Surf Park	2022/09267		Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Airport & Freight Access Gateway	2010/5384	Controlled Action	Post-Approval	In buffer area only
Construction of Fiona Stanley Hospital	2008/3970	Controlled Action	Post-Approval	In buffer area only
Garden Street road extension, Huntingdale, city of Gosnells, WA	2016/7735	Controlled Action	Post-Approval	In buffer area only
Jandakot Airport Expansion, Commercial Development and Clearing of Vegetation	2009/4796	Controlled Action	Post-Approval	In buffer area only
Keane Road Strategic Link, proposed construction central portion of Keane Road	2009/5035	Controlled Action	Completed	In buffer area only
Natural Gas Pipeline Expansion	2006/2813	Controlled Action	Post-Approval	In buffer area only
Ranford Road Residential Development	2002/549	Controlled Action	Post-Approval	In feature area
Residential development and bushfire protection within part Lot 9006 Reilly Road, Harrisdale, WA	2016/7846	Controlled Action	Post-Approval	In buffer area only
Residential Development Lot 131 Jandakot Road, Treeby WA	2018/8205	Controlled Action	Further Information Request	In buffer area only
Residential developmnt, Lots 11 and 74 Beenyup Road, Banjup, WA	2017/7923	Controlled Action	Post-Approval	In buffer area only
Residential Estate at Lot 1580 Warton Road, Southern River	2004/1471	Controlled Action	Post-Approval	In buffer area only
Roe Highway extension, Kwinana Freeway to Stock Road, WA	2009/5031	Controlled Action	Post-Approval	In buffer area only
Roe Hwy Extension	2003/972	Controlled Action	Post-Approval	In buffer area only
Shenton Park Subdivision	2004/1479	Controlled Action	Completed	In buffer area only
Southern Link Road Stage 3 City of Canning	2020/8809	Controlled Action	Referral Decision	In buffer area only
Thornlie-Cockburn Link Project, WA	2018/8188	Controlled Action	Post-Approval	In feature area
Tonkin Highway Grade Separated Interchanges	2019/8529	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Vegetation clearing (Cwlth land), Jandakot Airport, Cockburn, WA	2013/7032	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
'Looping 10' gas transmission pipeline from Kwinana to Hopelands	2005/2212	Not Controlled Action	Completed	In buffer area only
Armadale Road Duplication - Tapper to Anstey Road	2017/7972	Not Controlled Action	Completed	In buffer area only
Armadale Road to North Lake Road Bridge development, Jandakot, WA	2018/8284	Not Controlled Action	Completed	In buffer area only
Bibra Lake Aboriginal Cultural Centre Development	2020/8642	Not Controlled Action	Completed	In buffer area only
Burslem Drive Bridge Duplication Over Canning River, Maddington, WA	2014/7115	Not Controlled Action	Completed	In buffer area only
Calleya Residential Development, Banjup, WA	2016/7708	Not Controlled Action	Completed	In buffer area only
Commercial development of Lot 106 Wright Road, Forrestdale WA	2003/1255	Not Controlled Action	Completed	In feature area
Construction of international rowing course and commercial/residential areas	2003/1034	Not Controlled Action	Completed	In feature area
Construction of Pawsey High Performance Computing Centre	2010/5560	Not Controlled Action	Completed	In buffer area only
Curtin Main Street Project - Transformation of Bentley Campus to a major urban centre WA	2013/7044	Not Controlled Action	Completed	In buffer area only
Eradication of the European House Borer, Perth metropolitan area, WA	2009/5027	Not Controlled Action	Completed	In feature area
extensions to minerals laboratory	2005/2285	Not Controlled Action	Completed	In buffer area only
Gas-fired Power Station	2005/2213	Not Controlled Action	Completed	In buffer area only
Grazing of stock and associated works on Lot 1790 Passmore Street, Southern River Western Australia	2018/8176	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Industrial Development (multiple lots) Edward Street, Kenwick, WA	2018/8231	Not Controlled Action	Completed	In buffer area only
Jandakot Road Widening, Solomon Road to Berrigan Drive, Jandakot, WA	2020/8728	Not Controlled Action	Completed	In buffer area only
Kwinana Fwy southbound widening Roe Hwy to Armadale Rd and construction of farrington Rd off-ramp	2013/7062	Not Controlled Action	Completed	In buffer area only
Kwinana Gas-Fired Power Station	2005/2101	Not Controlled Action	Completed	In buffer area only
Lot 2 Nicholson Road, Forrestdale	2012/6561	Not Controlled Action	Completed	In buffer area only
Lots 12, 13 and 18 Hammond Road, Lot 80 Beeliar Drive and Lot 500 Hird Road	2012/6576	Not Controlled Action	Completed	In buffer area only
Murdoch University Sports Precinct, Melville, WA	2016/7823	Not Controlled Action	Completed	In buffer area only
Office & Electronic Assembly Building, Lot 106 Watts Place, Bentley, WA	2012/6440	Not Controlled Action	Completed	In buffer area only
Perth Seawater Desalination Project: Thomsons Lake to Kogolup Pipeline	2005/1971	Not Controlled Action	Completed	In buffer area only
Residential Development, Lot 12 Lyon Road, Aubin Grove, WA	2013/6852	Not Controlled Action	Completed	In buffer area only
Residential development, Lot 13 Lyon Road, Aubin Grove, WA	2014/7151	Not Controlled Action	Completed	In buffer area only
Residential Development Lot 4225 North Lake Road, Kardinya, WA	2015/7505	Not Controlled Action	Completed	In buffer area only
Road widening - Eighth Road Armadale between Gribble Avenue and Armadale Road	2021/8964	Not Controlled Action	Completed	In buffer area only
Roe Highway - Karel Avenue to Hope Road Bridge Project	2005/2061	Not Controlled Action	Completed	In feature area
Southern River Mixed Business Precinct F, City of Gosnells, WA	2013/6813	Not Controlled Action	Completed	In buffer area only
Southern River Precinct 3E	2017/7900	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
South Metropolitan Crop Research Hub, Murdoch WA	2018/8201	Not Controlled Action	Completed	In buffer area only
Tonkin Highway Extension	2001/470	Not Controlled Action	Completed	In buffer area only
Translocation of orchids (Caladenia huegelii) from Roe Hwy Reserve	2002/781	Not Controlled Action	Completed	In buffer area only
Urban developmnet & associated infrastructure, Lot 4 Armadale Road, Banjup WA	2013/7049	Not Controlled Action	Completed	In buffer area only
Wentworth West residential development, Bartram Road, Success, WA	2014/7245	Not Controlled Action	Completed	In buffer area only
Wungong Transfer Mains Project	2007/3532	Not Controlled Action	Completed	In buffer area only
Yule Brook Main Drain Flood Mitigation Works	2019/8572	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
City of Cockburn Sporting Facilities	2005/2139	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
South West Metropolitan Railway Project	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
State Football Centre	2020/8824	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
AIC Forrestdale Campus, Educational Establishment	2021/9134	Referral Decision	Referral Publication	In buffer area only
Commercial development of Lot 414 Grove Road, Kenwick	2021/9022	Referral Decision	Referral Publication	In buffer area only
Rezoning of Crown Reserve 39181 to facilitate future residential development	2005/2096	Referral Decision	Completed	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Appendix 2: Conservation Codes

Western Australia

Conservation Code	Name	Description
T	Threatened	Flora or fauna that is rare or likely to become extinct, ranked according to their level of threat using IUCN Red List criteria (Schedules 1-3 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice)
CR	Critically endangered	Species considered to be facing an extremely high risk of extinction within the wild in the immediate future
EN	Endangered	Species considered to be facing a very high risk of extinction in the wild in the near future
VU	Vulnerable	Species considered to be facing a high risk of extinction in the wild in the medium-term future
EX	Extinct Species	Species where 'there is no reasonable doubt that the last member of the species has died (Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice)
EW	Extinct in the Wild	Species that are known to only survive in cultivation, in captivity, or as a naturalised population well outside its past range; and it has not been recorded in its known or expected habitat at appropriate seasons anywhere in its past range, despite surveys over a timeframe appropriate to its life cycle and form
MI	Migratory Species	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth (Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice)
CD	Conservation Dependent	Species of special conservation interest (conservation dependent fauna), being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened (Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice)
OS	Specially Protected	Fauna otherwise in need of special protection to ensure their conservation (Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice)
P	Priority Species	Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or

Conservation Code	Name	Description
		flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.
P1	Priority One	Poorly known species – Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either very small or on lands not managed for conservation, such as road verges, urban areas, farmland, active mineral lease and under threat of habitat destruction or degradation.
2	Priority Two	Poorly known species – Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, such as national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves and similar.
3	Priority Three	Poorly known species – Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat
4	Priority Four	Rare or near threatened and other species in need of monitoring.

(Source: Department of Biodiversity, Conservation and Attractions, 2020a)

Commonwealth

Category	Description
Critically Endangered	Species facing an extremely high risk of extinction in the wild in the immediate future
Endangered	Species facing a very high risk of extinction in the wild in the near future
Vulnerable	Species facing a high risk of extinction in the wild in the medium term

(Source: Department of Biodiversity, Conservation and Attractions, 2019)

Appendix 3: Species List

The complete flora list for the site is provided in the table below with flora listed by species, and vegetation type they occurred within indicated. *Denotes introduced species and # denotes species that are native to Western Australia but not to this local region.

Family	Scientific Name	Common Name	Clements Place	Glen Iris	Elliot Place	Nicholson Rd	Waratah Blvd	North Lake Rd	Turtle Cove	Leeming Rd	Mesa Place	McLean Rd	Burham	Sevenoaks St	Marginata	Tom Bateman Newest	Thornlie and O'Dell	Albany Hwy	Edge of Kenwick Wetlands	Extension of Edge of KW	Kenwick Additional Portion
Myrtaceae	# <i>Corymbia ficifolia</i>	Red-flowering Gum															X				
Myrtaceae	# <i>Eucalyptus camaldulensis</i>	River Gum											X	X				X			
Myrtaceae	# <i>Eucalyptus</i> sp.												X								
Fabaceae	* <i>Acacia iteaphylla</i>		X																		
Asteraceae	* <i>Arctotheca calendula</i>	Cape Weed	X	X	X	X	X			X	X			X	X	X	X		X		
Poaceae	* <i>Arundo donax</i>	Giant Reed																			X
Asphodelaceae	* <i>Asphodelus fistulosus</i>	Onion Weed								X	X									X	
Poaceae	* <i>Avena barbata</i>	Bearded Oat	X	X		X	X	X		X			X	X	X		X		X	X	X
Orobanchaceae	* <i>Bellardia viscosa</i>																			X	
Brassicaceae	* <i>Brassica tournefortii</i>	Mediterranean Turnip	X	X		X		X	X	X					X			X			X
Poaceae	* <i>Briza maxima</i>	Blowfly Grass	X	X		X		X											X	X	
Poaceae	* <i>Bromus diandrus</i>	Great Brome	X	X				X		X		X	X	X		X	X			X	X
Poaceae	* <i>Bromus hordeaceus</i>	Soft Brome																		X	
Brassicaceae	* <i>Cardamine hirsuta</i>	Common Bittercress							X		X										
Aizoaceae	* <i>Carpobrotus edulis</i>	Hottentot Fig	X																		
Poaceae	* <i>Cenchrus clandestinus</i>	Kikuyu Grass			X	X	X											X			
Poaceae	* <i>Cenchrus setaceus</i>	Fountain Grass		X				X		X											
Gentianaceae	* <i>Centaurium erythraea</i>	Common Centaury																	X		
Gentianaceae	* <i>Centaurium tenuiflorum</i>																			X	
Caryophyllaceae	* <i>Cerastium glomeratum</i>	Mouse Ear Chickweed	X		X		X			X								X			
Fabaceae	* <i>Chamaecytisus palmensis</i>	Tagasaste																		X	
Myrtaceae	* <i>Chamelaucium uncinatum</i>	Geraldton Wax	X	X						X											
Asteraceae	* <i>Cirsium vulgare</i>	Spear Thistle					X														
Cucurbitaceae	* <i>Citrullus amarus</i>									X											
Asteraceae	* <i>Cotula turbinata</i>	Funnel Weed														X	X				
Crassulaceae	* <i>Crassula alata</i>		X							X											
Crassulaceae	* <i>Crassula glomerata</i>									X											

Family	Scientific Name	Common Name	Clements Place	Glen Iris	Elliot Place	Nicholson Rd	Waratah Blvd	North Lake Rd	Turtle Cove	Leeming Rd	Mesa Place	McLean Rd	Burham	Sevenoaks St	Marginata	Tom Bateman Newest	Thornlie and O'Dell	Albany Hwy	Edge of Kenwick Wetlands	Extension of Edge of KW	Kenwick Additional Portion
Poaceae	<i>*Cynodon dactylon</i>	Couch		X			X				X	X	X	X		X	X	X	X	X	X
Scrophulariaceae	<i>*Dischisma capitatum</i>	Woolly-headed Dischisma					X														
Boraginaceae	<i>*Echium plantagineum</i>	Paterson's Curse																	X	X	
Poaceae	<i>*Ehrharta calycina</i>	Perennial Veldt Grass	X	X				X				X	X					X	X		
Poaceae	<i>*Ehrharta longiflora</i>	Annual Veldt Grass	X						X			X		X			X	X			
Poaceae	<i>*Eragrostis curvula</i>	African Lovegrass		X									X				X	X	X	X	
Asteraceae	<i>*Erigeron bonariensis</i>					X	X	X	X								X		X	X	X
Geraniaceae	<i>*Erodium botrys</i>	Long Storksbill			X				X			X	X			X	X	X			
Euphorbiaceae	<i>*Euphorbia maculata</i>															X					
Euphorbiaceae	<i>*Euphorbia peplus</i>	Petty Spurge	X					X	X	X											
Euphorbiaceae	<i>*Euphorbia terracina</i>	Geraldton Carnation Weed	X	X		X			X			X									
Iridaceae	<i>*Freesia alba × leichtlinii</i>		X																		
Papaveraceae	<i>*Fumaria capreolata</i>	Whiteflower Fumitory						X										X			
Rubiaceae	<i>*Galium aparine</i>		X					X		X	X										
Asteraceae	<i>*Gazania linearis</i>													X							
Iridaceae	<i>*Gladiolus caryophyllaceus</i>	Wild Gladiolus	X																		
Apocynaceae	<i>*Gomphocarpus fruticosus</i>	Narrowleaf Cottonbush																		X	
Poaceae	<i>*Hordeum leporinum</i>	Barley Grass		X		X								X				X	X	X	
Asteraceae	<i>*Hypochaeris glabra</i>	Smooth Cats-ear	X				X			X		X			X	X	X			X	
Asteraceae	<i>*Hypochaeris radicata</i>	Flat Weed							X												
Plantaginaceae	<i>*Kickxia spuria</i>	Roundleaf Toadflax																			X
Asteraceae	<i>*Lactuca serriola</i>	Prickly Lettuce			X			X	X							X	X			X	X
Poaceae	<i>*Lagurus ovatus</i>	Hares Tail Grass	X	X				X													
Verbenaceae	<i>*Lantana camara</i>	Common Lantana																			X
Lamiaceae	<i>*Lavandula dentata</i>	French Lavender	X				X														
Asteraceae	<i>*Leontodon rhagadioloides</i>	Cretan Weed													X						
Poaceae	<i>*Lolium rigidum</i>	Wimmera Ryegrass		X			X	X		X		X	X	X			X	X	X	X	X
Fabaceae	<i>*Lotus subbiflorus</i>												X	X					X	X	
Fabaceae	<i>*Lupinus cosentinii</i>						X	X									X				
Primulaceae	<i>*Lysimachia arvensis</i>	Pimpernel	X	X			X		X	X											

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Lythraceae	<i>*Lythrum hyssopifolia</i>	Lesser Loosestrife																	X	X	X
Malvaceae	<i>*Malva parviflora</i>	Marshmallow															X				
Fabaceae	<i>*Medicago polymorpha</i>	Burr Medic	X	X	X	X	X	X				X	X	X	X	X	X	X		X	
Myrtaceae	<i>*Melaleuca nesophila</i>	Mindiyed	X																		
Meliaceae	<i>*Melia azedarach</i>	White Cedar											X								
Fabaceae	<i>*Melilotus indicus</i>			X		X											X				
Apocynaceae	<i>*Nerium oleander</i>																	X			
Onagraceae	<i>*Oenothera drummondii</i>	Beach Evening Primrose					X														
Oleaceae	<i>*Olea europaea</i>	Olive		X																	
Fabaceae	<i>*Ornithopus compressus</i>	Yellow Serradella																			X
Oxalidaceae	<i>*Oxalis pes-caprae</i>	Soursob							X	X			X						X	X	
Geraniaceae	<i>*Pelargonium capitatum</i>	Rose Pelargonium	X	X				X		X										X	
Caryophyllaceae	<i>*Petrorhagia dubia</i>						X			X											
Poaceae	<i>*Phalaris minor</i>	Lesser Canary Grass																			X
Poaceae	<i>*Phleum arenarium</i>		X							X							X	X			X
Arecaceae	<i>*Phoenix dactylifera</i>	Date Palm											X								
Pinaceae	<i>*Pinus pinaster</i>	Pinaster Pine	X																		
Poaceae	<i>*Poa annua</i>	Winter Grass				X	X						X			X	X	X			
Asteraceae	<i>*Podotheca gnaphalioides</i>									X											
Asteraceae	<i>*Reichardia tingitana</i>	False Sowthistle		X				X													
Fabaceae	<i>*Retama raetam</i>			X																	
Euphorbiaceae	<i>*Ricinus communis</i>	Castor Oil Plant				X		X		X											
Fabaceae	<i>*Robinia pseudoacacia</i>										X										
Iridaceae	<i>*Romulea rosea</i>	Guildford Grass					X						X				X				X
Lamiaceae	<i>*Rosmarinus officinalis</i>	Rosemary							X												
Asteraceae	<i>*Senecio vulgaris</i>	Common Groundsel		X					X	X						X					
Solanaceae	<i>*Solanum nigrum</i>	Black Berry Nightshade			X				X											X	
Asteraceae	<i>*Sonchus oleraceus</i>	Common Sowthistle	X	X		X	X	X	X	X						X	X		X	X	X
Asphodelaceae	<i>*Trachyandra divaricata</i>									X											
Fabaceae	<i>*Trifolium angustifolium</i>	Narrowleaf Clover	X					X						X							X

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Fabaceae	<i>*Trifolium arvense</i>	Hare's Foot Clover				X						X	X				X		X	X	
Fabaceae	<i>*Trifolium campestre</i>	Hop Clover								X											
Fabaceae	<i>*Trifolium scabrum</i>	Rough Clover						X	X	X						X					
Asteraceae	<i>*Urospermum picroides</i>	False Hawkbit	X	X																	X
Asteraceae	<i>*Ursinia anthemoides</i>		X																		
Fabaceae	<i>*Vicia sativa</i>	Common Vetch											X						X		X
Poaceae	<i>*Vulpia muralis</i>									X							X				
Poaceae	<i>*Vulpia myuros</i>	Rat's Tail Fescue					X														
Campanulaceae	<i>*Wahlenbergia capensis</i>	Cape Bluebell	X																		
Iridaceae	<i>*Watsonia meriana</i>	Bulbil Watsonia	X															X	X		
Fabaceae	<i>Acacia cochlearis</i>			X																	
Fabaceae	<i>Acacia lasiocarpa</i>	Panjang		X																X	
Fabaceae	<i>Acacia pulchella</i>	Prickly Moses	X																	X	X
Fabaceae	<i>Acacia saligna</i>	Orange Wattle		X																	X
Fabaceae	<i>Acacia stenoptera</i>	Narrow Winged Wattle	X																		
Myrtaceae	<i>Agonis flexuosa</i>	Peppermint																			X
Casuarinaceae	<i>Allocasuarina humilis</i>	Dwarf Sheoak	X	X																	
Ericaceae	<i>Astroloma xerophyllum</i>		X																		
Poaceae	<i>Austrostipa compressa</i>		X																		X
Poaceae	<i>Austrostipa flavescens</i>																				X
Proteaceae	<i>Banksia menziesii</i>	Firewood Banksia	X	X																	
Proteaceae	<i>Banksia attenuata</i>	Slender Banksia	X																		
Colchicaceae	<i>Burchardia congesta</i>		X																		
Myrtaceae	<i>Callistemon citrinus</i>		X																		
Cupressaceae	<i>Callitris preissii</i>	Rottnest Island Pine	X																		
Myrtaceae	<i>Calothamnus quadrifidus</i>	One-sided Bottlebrush		X																	
Ericaceae	<i>Conostephium pendulum</i>	Pearl Flower	X																		
Haemodoraceae	<i>Conostylis aculeata</i>	Prickly Conostylis	X																		
Myrtaceae	<i>Corymbia calophylla</i>	Marri	X	X								X						X	X	X	
Goodeniaceae	<i>Dampiera linearis</i>	Common Dampiera	X																		

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Dasygogonaceae	<i>Dasygogon bromeliifolius</i>	Pineapple Bush	X																		
Fabaceae	<i>Daviesia triflora</i>		X																		
Restionaceae	<i>Desmocladus asper</i>		X																		
Restionaceae	<i>Desmocladus flexuosa</i>		X																		
Myrtaceae	<i>Eremaea pauciflora</i>		X																		
Scrophulariaceae	<i>Eremophila glabra</i>	Tar Bush		X																	
Myrtaceae	<i>Eucalyptus marginata</i>	Jarraah						X													
Myrtaceae	<i>Eucalyptus rudis</i>	Flooded Gum																X			
Fabaceae	<i>Gastrolobium capitatum</i>																			X	X
Fabaceae	<i>Gompholobium marginatum</i>																			X	
Fabaceae	<i>Gompholobium tomentosum</i>	Hairy Yellow Pea	X																		
Proteaceae	<i>Grevillea crithmifolia</i>			X																	
Proteaceae	<i>Grevillea obtusifolia</i>	Obtuse Leaved Flower		X																	
Proteaceae	<i>Hakea lissocarpha</i>	Honey Bush		X																	X
Proteaceae	<i>Hakea trifurcata</i>	Two-leaf Hakea		X																X	X
Dilleniaceae	<i>Hibbertia huegelii</i>		X																		
Dilleniaceae	<i>Hibbertia hypericoides</i>	Yellow buttercups	X																	X	X
Myrtaceae	<i>Hypocalymma robustum</i>	Swan River Myrtle	X																		
Fabaceae	<i>Jacksonia furcellata</i>	Grey Stinkwood		X																	
Fabaceae	<i>Kennedia prostrata</i>	Scarlet Runner																		X	X
Asparagaceae	<i>Laxmannia squarrosa</i>		X																		
Cyperaceae	<i>Lepidosperma pubisquameum</i>																				X
Cyperaceae	<i>Lepidosperma squamatum</i>																				X
Asparagaceae	<i>Lomandra hermaphrodita</i>		X																		
Asparagaceae	<i>Lomandra suaveolens</i>		X																		
Anarthriaceae	<i>Lyginia barbata</i>		X																		
Anarthriaceae	<i>Lyginia imberbis</i>		X																		
Myrtaceae	<i>Melaleuca huegelii</i>	Chenille Honey Myrtle		X																	
Myrtaceae	<i>Melaleuca systema</i>			X																	
Cyperaceae	<i>Mesomelaena pseudostygia</i>		X																		

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Orchidaceae	<i>Microtis media</i>	Tall Mignonette Orchid	X																		
Asteraceae	<i>Olearia axillaris</i>	Coastal Daisybush		X																	
Iridaceae	<i>Patersonia occidentalis</i>	Purple Flag	X																		
Proteaceae	<i>Petrophile linearis</i>	Pixie Mops	X																		
Asteraceae	<i>Podotheca gnaphalioides</i>	Golden Long-heads	X																		
Goodeniaceae	<i>Scaevola nitida</i>	Shining Fanflower		X																	
Myrtaceae	<i>Scholtzia involucrata</i>	Spiked Scholtzia	X																		
Asteraceae	<i>Siloxerus filifolius</i>		X																		
Rhamnaceae	<i>Spyridium globulosum</i>	Basket Bush		X																	
Proteaceae	<i>Stirlingia latifolia</i>	Blueboy	X																		
Poaceae	<i>Themeda triandra</i>																			X	X
Araliaceae	<i>Trachymene pilosa</i>	Native Parsnip	X																		
Hemerocallidaceae	<i>Tricoryne elatior</i>	Yellow Autumn Lily																		X	X
Fabaceae	<i>Viminaria juncea</i>	Swishbush																			X
Xanthorrhoeaceae	<i>Xanthorrhoea brunonis</i>																			X	X
Apiaceae	<i>Xanthosia huegelii</i>																			X	

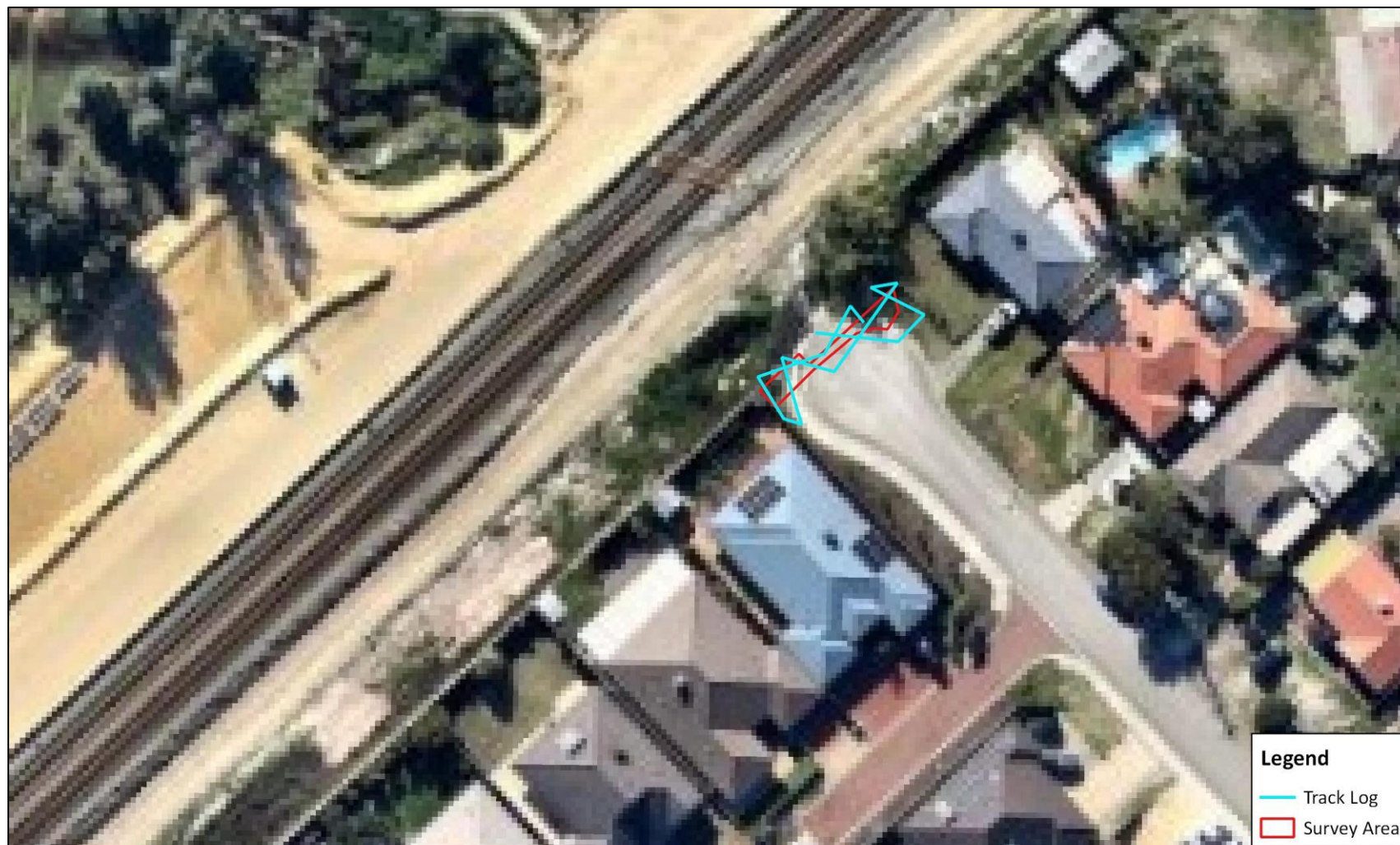
Appendix 4: Track Logs



Track Logs
Tom Bateman Newest Compound

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94





Track Logs
Elliot Place

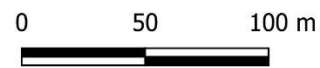
Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94





Track Logs
Thornlie Train Station and O'Dell
Street

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94





Track Logs
Burham Road

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94



Newest Alliance – Thornlie Cockburn Line
Basic Flora Survey and Black Cockatoo Assessment S45C Part B Survey Sites

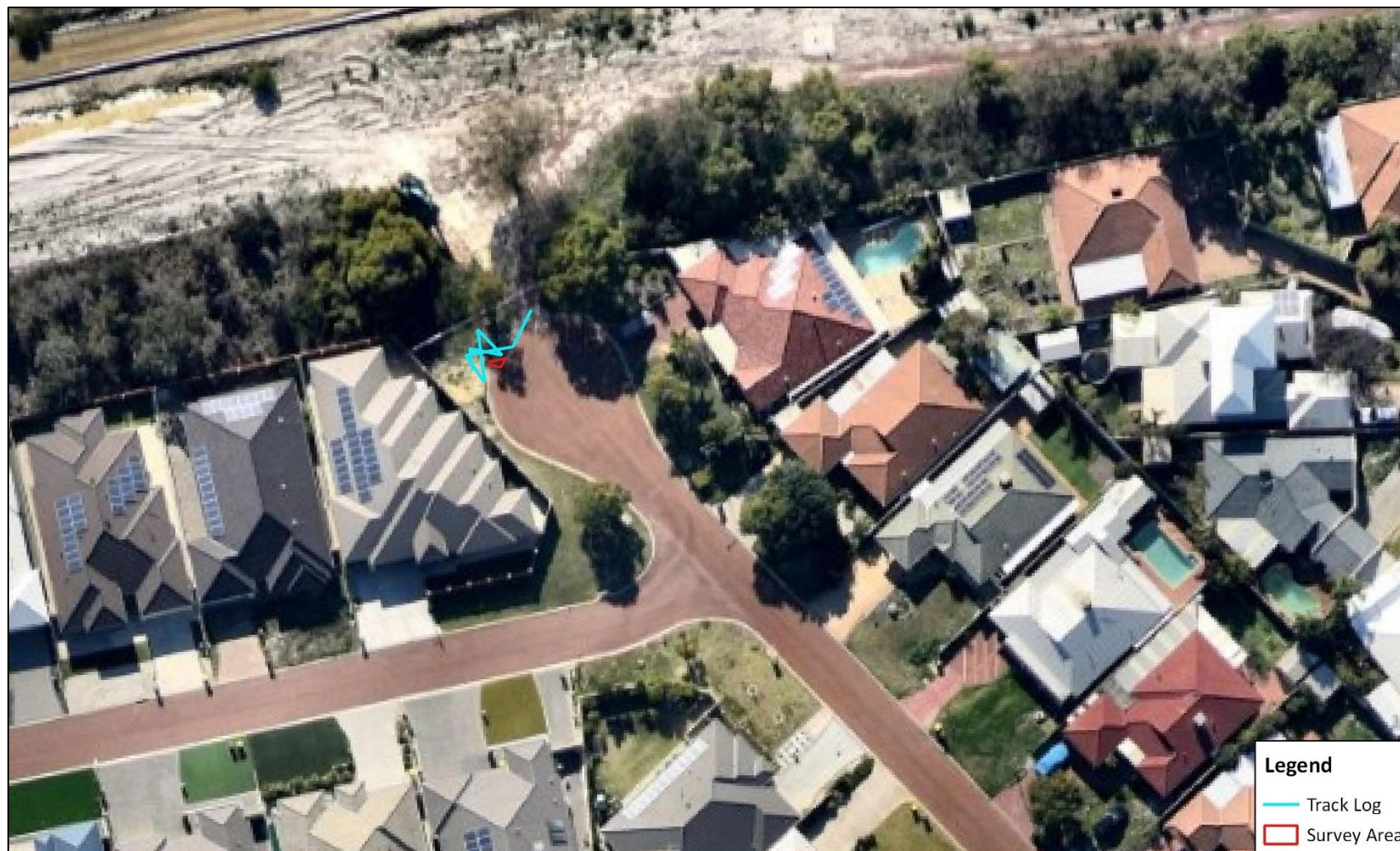


Track Logs
Albany Hwy

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94







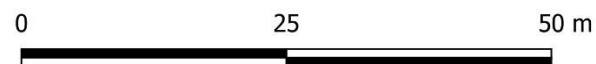
Legend

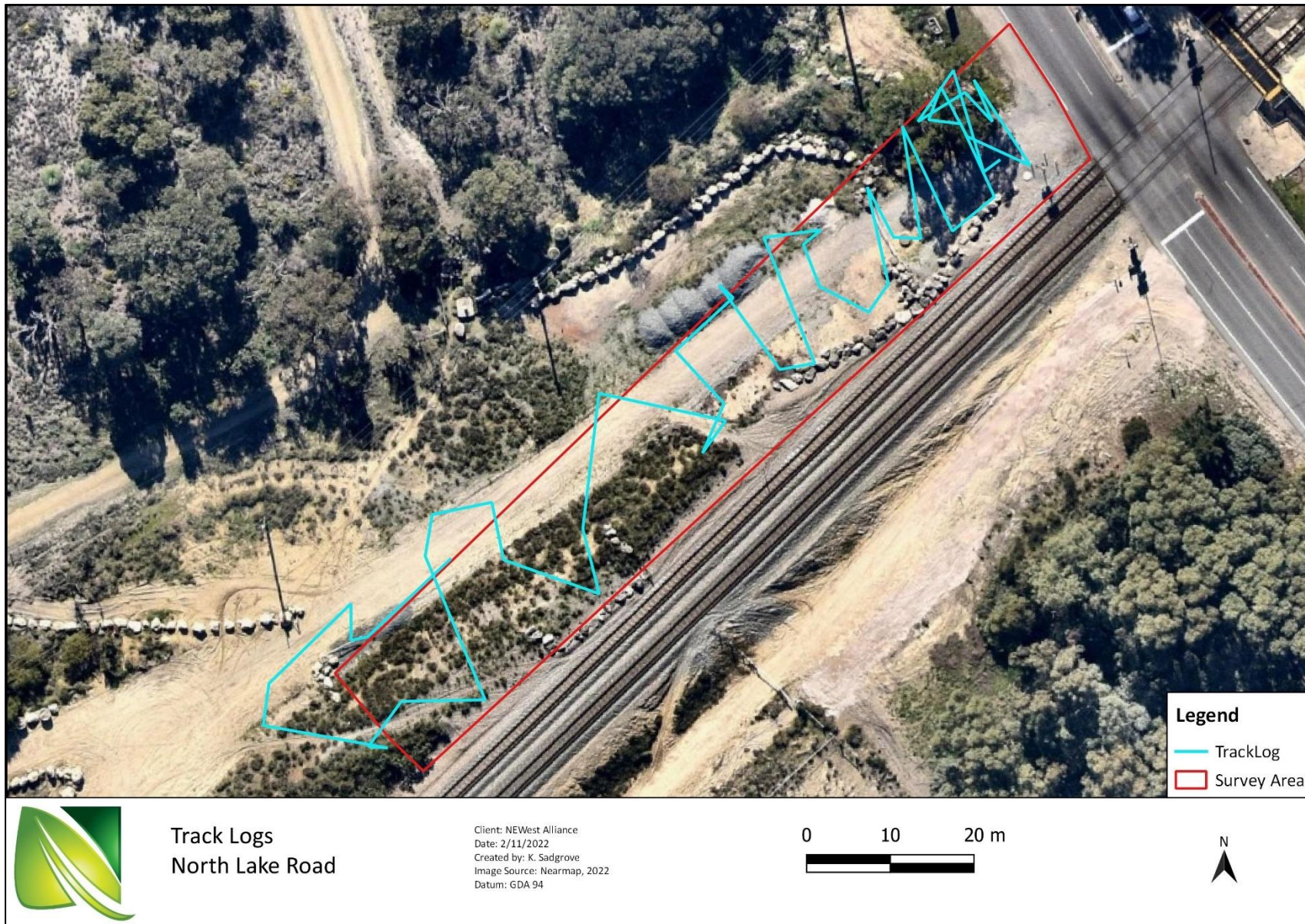
- Track Log
- Survey Area



Track Logs
Marginata Parkway

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94











Legend

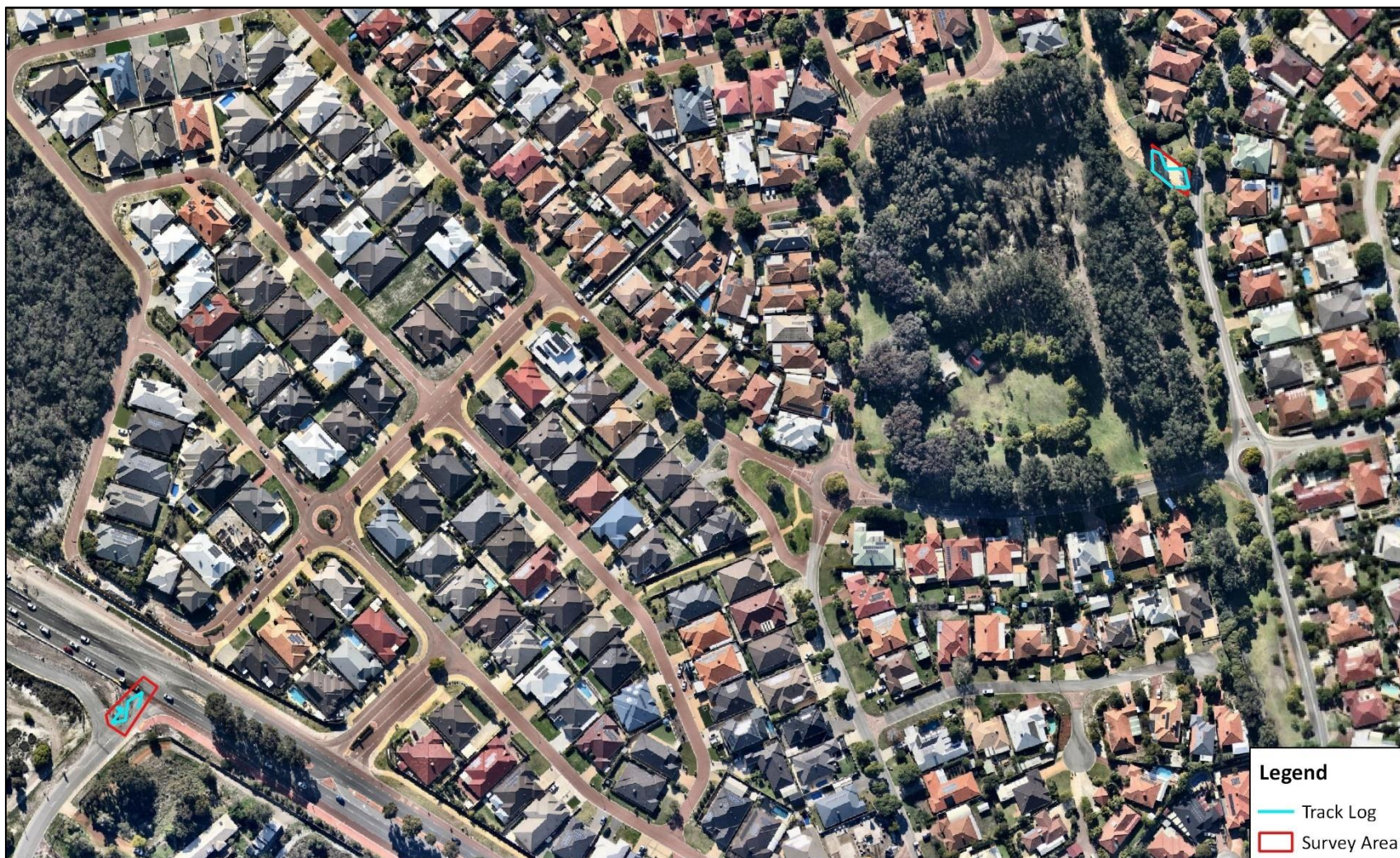
- Track Log
- Survey Area



Track Logs
Leeming Road

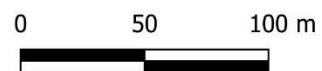
Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94





Track Logs
Ranford Road and
Waratah Boulevard

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94





Track Logs
McLean Road

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94







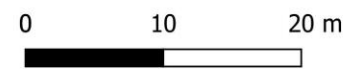
Legend

- Track Log
- ▭ Survey Area





Track Logs
Mesa Place

Client: NEWest Alliance
Date: 2/11/2022
Created by: K. Sadgrove
Image Source: Nearmap, 2022
Datum: GDA 94





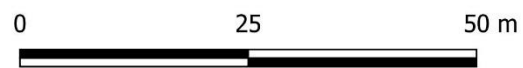
Legend

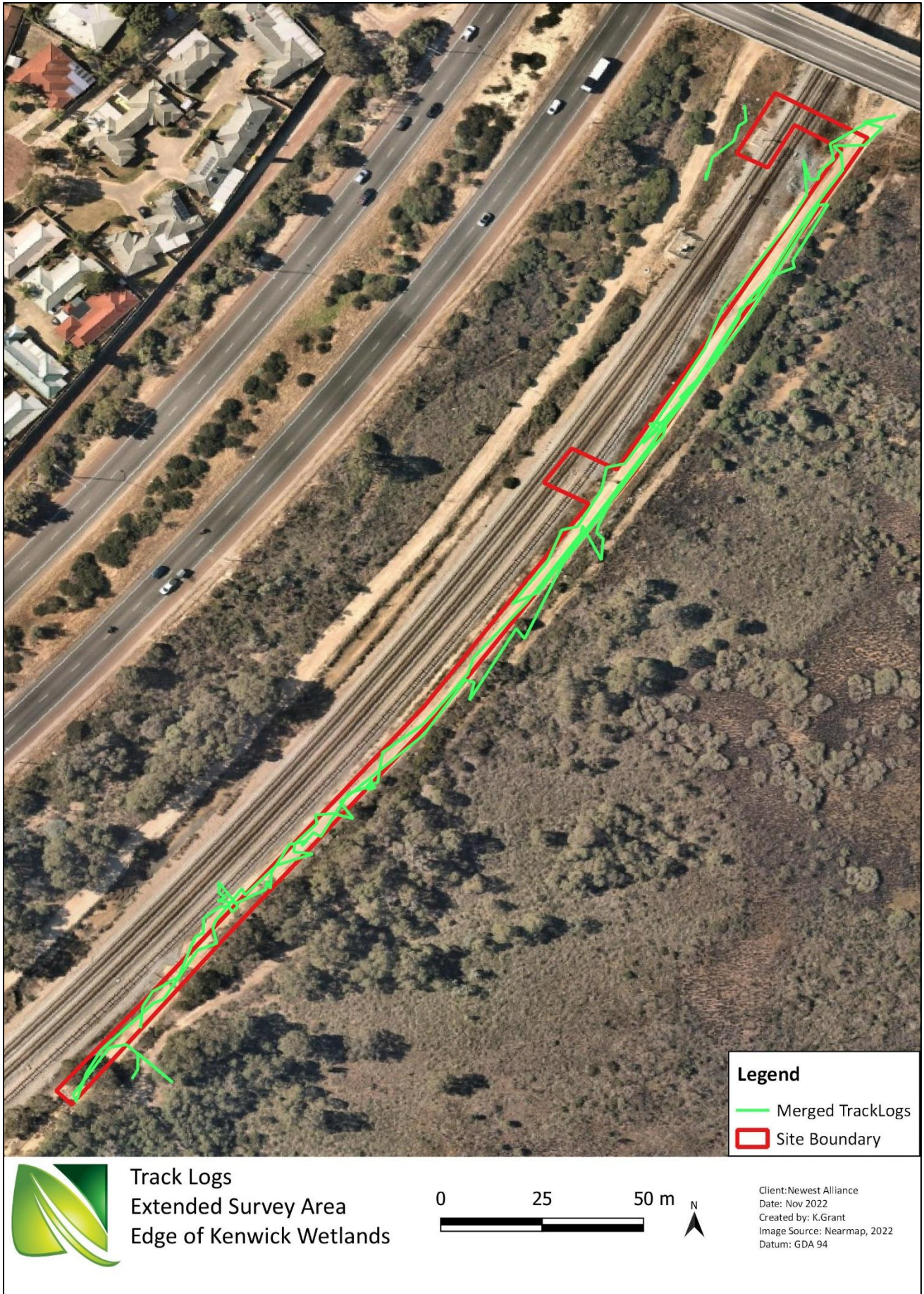
-  Merged TrackLogs
-  Site Boundary



Track Logs
Survey Area
Construction Area near Roe Hwy

Client: Newest Alliance
Date: Nov 2022
Created by: K. Grant
Image Source: Nearmap, 2022
Datum: GDA 94





Appendix 5: WoNS/DP



