

## Clearing Referral Supporting Report: Lot 40 on Diagram 32446 (#73) Treeby Road, Anketell, WA



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Prepared For: Spring Park Pty Ltd & CTD  
Generation Pty Ltd c/o  
Jardim Property Group  
  
88 Marine Terrace,  
Fremantle WA 6160  
  
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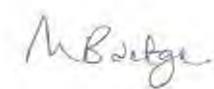
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Author: Marni Baetge  
Principal Environmental  
Scientist



5 December 2025

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Signature

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Date

Reviewed by: Paul Zuvela  
Principal Environmental  
Scientist



5 December 2025

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Signature

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## 1 PROJECT OVERVIEW AND LOCATION

### 1.1 PROJECT BACKGROUND

Jardim Property Group, on behalf of Spring Park Pty Ltd & CTD Generation Pty Ltd (the Proponent), are developing Lot 39 on Diagram 32446 (No. 63) Treeby Road, Anketell approximately 25 kilometres (km) south of Perth, within the City of Kwinana, Western Australia (WA).

An assessment of bushfire risk for the proposed subdivision of Lot 39 confirmed that portions of the subdivision area have a Bushfire Attack Level (BAL) 40 and therefore a very high risk rating of exposure to bushfire. To manage the risk of bushfire to the future residential properties within Lot 39, the Proponent is seeking approval to clear up to 0.38 hectares (ha) of native vegetation to reduce fuel load (by removing vegetation understorey, clearing shrubs and smaller trees, and pruning existing trees) within Lot 40 on Diagram 32446 (the Referral Area), located immediately south of Lot 39 (**Figure 1**). Mature trees within the Referral Area will be retained where possible.

For the purposes of this report the following definition is used:

- **Referral Area:** The maximum disturbance area where native vegetation will be impacted to reduce fuel load (by removing vegetation understorey, clearing shrubs and trees, and pruning existing trees). The Referral Area is 0.38 ha in extent.

The Department of Water and Environmental Regulation (DWER) provides an option for project proponents to refer a proposed low environmental impact clearing activity for assessment to determine whether a native vegetation clearing permit (NVCP) is required. The *Guideline: Native vegetation clearing referrals* (DWER, 2021a) provides four criteria that must be satisfied to provide an exemption from requiring a NVCP. Schedule 6 *Environmental Protection Act 1986* (EP Act) exemptions and Regulation 5 exemptions under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* also exempt the requirement for a NVCP, but these exemptions are not applicable to the clearing proposed within the Referral Area.

The four criteria that must be satisfied to provide an exemption from requiring a NVCP are:

- 1) The area proposed to be cleared is small relative to the total remaining vegetation;
- 2) There are no known or likely significant environmental values within the area;
- 3) The state of scientific knowledge of native vegetation within the region is adequate; and
- 4) Conditions will not be required to manage environmental impacts.

If it cannot be demonstrated that each of these criteria are applicable to the proposed clearing, then a NVCP will be required. To determine whether a NVCP is required for the Referral Area, the Proponent has engaged Aurora Environmental to conduct a desktop assessment and a site inspection, to review the proposed clearing against the above four criteria for use in support of a clearing referral to the DWER.

The Proponent has applied the mitigation hierarchy to reduce adverse environmental impacts, by avoiding impacts where possible, followed by minimisation/reduction. The 0.38 ha Referral Area is the maximum footprint in which native vegetation clearing will occur and the Proponent is aiming to clear less than this amount by only removing understorey and pruning trees, rather than complete

vegetation removal, to reduce fuel load and minimise fire risk to future residential properties within Lot 39. The proposed clearing will be undertaken with the consent of the landowner of Lot 40.

An Environmental Assessment Report (EAR) was prepared by Strategen Environmental (2019) which included a 2018 reconnaissance survey of Lot 40. An additional flora and vegetation survey was completed by Bennett Environmental during in Spring 2009 (Bennett Environmental, 2010) which encompassed the Referral Area. Both these surveys support the Anketell North Structure Plan (Taylor Burrell Barnett, 2020) and inform future subdivision of the local area.

The preparation of this vegetation referral supporting report has relied on information derived from government managed databases, datasets for conservation significant flora, fauna and ecological communities provided by the Department of Biodiversity, Conservation and Attractions (DBCA), existing technical reports (i.e. Strategen Environmental (2019) and Bennett Environmental (2010)) and available guidance documentation. An inspection of the Referral Area was undertaken by Aurora Environmental Ecologist on the 17 November 2025 to assess the environmental attributes.

## **1.2 THE REFERRAL AREA**

The Referral Area is registered as Freehold land with the proprietor listed as Kevin William Dorn (Certificate of Title 8/301A) (Landgate, 2025a). The Proponent has obtained landowner consent to clear vegetation within the Referral Area.

The Referral Area is zoned “Urban” under the MRS and “Development” under LPS No.2. The Anketell North Structure Plan (Taylor Burrell Barnett, 2020), endorsed by the Western Australian Planning Commission (WAPC) 2020, has designated the Referral Area for residential development and therefore the area will ultimately be developed for residential uses and subject to clearing.

## 2 REFERRAL CRITERIA

### 2.1 CRITERION ONE – THE AREA PROPOSED TO BE CLEARED IS SMALL RELATIVE TO THE TOTAL REMAINING VEGETATION

Criterion One in the DWER's (2021a) guideline on native vegetation clearing referrals has three criteria and thresholds against which the proposed clearing must be considered. The Referral Area is located in the "Metropolitan Perth and Greater Bunbury Regional Scheme constrained areas" and therefore the thresholds in **Table 1** apply.

**TABLE 1: ASSESSMENT AGAINST CRITERION ONE**

CRITERION	THRESHOLD	ASSESSMENT
Extent of proposed clearing area.	If more than 1 ha is proposed to be cleared, a permit is required.	<b>Compliant</b> The Referral Area is 0.38 ha and less than 1 ha.
Threshold for remaining extent of that native vegetation association or complex in the relevant IBRA bioregion.	If less than 10% of that native vegetation association or complex is remaining within the relevant IBRA bioregion, a permit is required.	<b>Compliant</b> The Referral Area is mapped as Vegetation Association (VA) 1001 described as a "medium very sparse woodland; Jarrah, with low woodland; <i>Banksia</i> & <i>Casuarina</i> ". The current remaining extent of VA 1001 within the Swan Coastal Plain (SWA) bioregion is 57,410.23 ha, which is 22.05% of the inferred pre-European extent (Government of Western Australia ([GoWA], 2025a). The proposed clearing is greater than the 10% threshold for remaining extent of VA 1001 in the SWA bioregion.
Threshold for remaining native vegetation surrounding the boundary of the proposed clearing.	If less than 10% native vegetation is remaining within a 5 km buffer of the proposed clearing, a permit is required.	<b>Compliant</b> There is 2,781.25 ha of native vegetation remaining within 5 km of the Referral Area, (DWER, 2025a; DWER-141) which represents approximately 35.4 % of VA 1001 at the SWA bioregion extent.

### 2.2 CRITERION TWO – THERE ARE NO KNOWN OR LIKELY SIGNIFICANT ENVIRONMENTAL VALUES WITHIN THE AREA

Criterion Two of the DWER (2021a) guideline on native vegetation clearing referrals has 12 categories against which the proposed clearing is considered. An assessment of the proposed clearing against these categories is provided in **Table 2**.

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
Vegetation condition	<p><b>No significant impact.</b></p> <p>The inspection of the Referral Area conducted 17 November 2025 described the native vegetation as 'Eg Scattered trees of <i>Eucalyptus gomphocephala</i> and <i>Agonis flexuosa</i> over a weedy grassland on sandy soils.'</p> <p>The condition of the vegetation was assessed to be Completely Degraded using the scale of Keighery (1994) (<b>Figure 2</b>).</p> <p>Aerial photographs of the Referral Area (refer to <b>Appendix 1</b>) show disturbance a history of disturbance within the Referral Area, including almost complete clearing of native vegetation. There has also been extensive disturbance involving clearing of native vegetation adjacent to the Referral Area i.e., within Lot 39.</p>
Significant fauna	<p><b>No significant impact.</b></p> <p>A DBCA database search of conservation significant fauna species within a 5 km radius of the Referral Area (reference 10-1125FA, DBCA 2025a) identified 618 records of significant fauna representing 13 taxa (five species of birds, two invertebrate species, four species of mammal and two species of reptile) (<b>Figure 3</b>), comprised of:</p> <ul style="list-style-type: none"> <li>• One Threatened (Endangered) species;</li> <li>• Two Threatened (Vulnerable) species;</li> <li>• Two Specially Protected – Migratory species;</li> <li>• One Specially Protected – Conservation Dependent species;</li> <li>• Three Priority 3 species; and</li> <li>• Four Priority 4 species.</li> </ul> <p>The site inspection of the Referral Area did not identify the presence of any significant fauna species, and the Completely Degraded condition of the area and adjacent disturbance and construction activities reduces the likelihood of any significant fauna species permanently inhabiting the area.</p> <p>The closest significant fauna species record was identified 270 m north of the Referral Area (<i>Isoodon fusciventer</i>; Quenda; Priority 4). The majority of significant fauna records are located approximately 700 m west of the Referral Area within the vegetation that buffers the Spectacles Swamp. It should be noted that some records are old and listed as being of unknown certainty and may be inaccurate in terms of location.</p>

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
	<p>A likelihood of occurrence assessment (LOA) was completed for the species with records occurring within 5 km of the Referral Area (<b>Appendix 2</b>). The following species were assessed as “Possible” to occur in the Referral Area:</p> <ul style="list-style-type: none"><li>• Carnaby's Cockatoo (<i>Zanda latirostris</i>): The Referral Area is located within the modelled distribution (non-breeding range) for Carnaby's Cockatoo. The nearest record of Carnaby's Cockatoo is approximately 1.6 km south of the Referral Area at the northern end of the Marri Park golf course. The record is through regular monitoring dated 2016. Multiple other records (146 records) occur within 5 km of the Referral Area. The November 2025 inspection of the Referral Area confirmed the presence of black cockatoo habitat as described by Strategen (2019) however adjacent development and disturbance to the Referral Area has reduced the habitat value. Detailed information is included below.</li><li>• Forest Red-tailed Black Cockatoo (<i>Calyptorhynchus banksii naso</i>): The Referral Area is located within the modelled distribution (likely to occur) for Forest Red-tailed Black Cockatoo. The nearest record of Forest Red-tailed Black Cockatoo is approximately 1.6 km south of the Referral Area. The record is an opportunistic sighting dated 2020 along Thomas Road. Eleven other records occur within 5 km of the Referral Area. The November 2025 inspection of the Referral Area confirmed the presence of black cockatoo habitat as described by Strategen (2019) however adjacent development and disturbance to the Referral Area has reduced the habitat value. Detailed information is included below.</li><li>• Quenda (<i>Isoodon fusciventer</i>): 399 records of the Quenda occur within 5 km of the Referral Area, the closest record being 270 m north of the Referral Area. The Quenda inhabits scrubby, often swampy, vegetation with dense cover up to 1 m high and often feeds in forest and woodland that is burnt on a regular basis, and in areas of pasture and cropland lying close to dense cover. Dense vegetation surrounding waterways is preferred to provide protection and foraging opportunities. The Referral Area may comprise habitat for foraging however given the relatively small scale of clearing required, it is considered unlikely the Referral Area represents key habitat for the maintenance of the Quenda.</li></ul> <p><b><u>Black cockatoo habitat</u></b></p> <p><b>Foraging habitat:</b> Seeds of native proteaceous plant species (<i>Banksia</i> spp.) provide suitable foraging habitat for the Carnaby's Cockatoo. Forest Red-tailed Black Cockatoo forage on the seeds of Tuart which are present in the Referral Area. The Completely Degraded condition of the Referral Area and adjacent construction and resulting noise, dust and vibration would limit foraging activity occurring in the Referral Area. The Referral Area comprises 0.38 ha low-quality foraging habitat for Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo.</p>

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
	<p><b>Breeding habitat:</b> Four trees with a diameter breast height (DBH) &gt;500 mm were recorded in the Referral Area; three trees recorded as Tuart (<i>Eucalyptus gomphocephala</i>; one tree dead) plus one planted Eucalyptus trees not endemic to WA. None of the trees recorded met all of the below criteria to be considered potential black cockatoo breeding habitat:</p> <ul style="list-style-type: none"> <li>• Native trees (e.g. Jarrah, Tuart, Marri) or other suitable species capable of forming hollows; and</li> <li>• Diameter at breast height (DBH) &gt; 500 mm; and</li> <li>• Hollows with vertical or near vertical opening &gt; 120 mm diameter.</li> </ul> <p>The Referral Area is not situated in a known black cockatoo breeding location. The closest buffer of a confirmed breeding site is approximately 12 km north-east of the Referral Area. It is unlikely the Referral Area supports black cockatoo breeding due to the location of the Referral Area being adjacent to a highly disturbed and degraded area which is subjected to construction activities, noise, dust and vibration.</p> <p><b>Roosting habitat:</b> Carnaby's Cockatoo roost in tall, large trees over 8 m in height, typically within close proximity to a water source and within 6 km of potential feeding habitat. Any tall trees may provide suitable roosting for Forest Red-tailed Black Cockatoo, but particularly tall Jarrah, Marri, Blackbutt, Tuart and introduced Eucalypt trees or large trees on the edges of forests (DAWE 2022). The Referral Area is located within the buffer of a Carnaby's Cockatoo confirmed roost site (DBCA, 2018a; DBCA-053). According to the DBCA TPFA dataset the closest recorded roosting activity to the Site is 1.9 km south. Although the ten DBH trees may provide the appropriate height for Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo roosting, and water sources are located within 6 km of the Referral Area, the potential for the Referral Area to provide suitable black cockatoo night roosting habitat is unlikely due to the highly disturbed and degraded condition of the Referral Area and construction noise, dust and vibration being deterring factors to roosting activity.</p>
Fauna habitat	<p><b>No significant impact.</b></p> <p>Due to the limited extent of habitat and Completely Degraded condition of the Site, it is expected that a reduced diversity and abundance of fauna species would occur in the Referral Area. Only species that are mobile and able to survive in degraded habitats will persist.</p>
Significant ecological linkage	<p><b>No significant impact.</b></p> <p>The Referral Area is located adjacent and west of an ecological corridor (Link ID 58). The Referral Area does not intersect the ecological link. Link ID 58 within 5 km of the Referral Area comprises mapped native vegetation, Environmentally Sensitive Areas (ESAs), conservation reserves, Bush Forever, geomorphic wetlands, conservation significant flora, fauna and vegetation communities. The minor nature of the clearing located at the edge of currently developed land will not disrupt any ecological corridors, or materially impact fauna movement.</p>

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
Mapped ecological community	<p><b>No significant impact.</b></p> <p>The Commonwealth Government's Protected Matters Search Tool (PMST) (DCCEEW, 2025a, <b>Appendix 3</b>) and the DBCA database search of mapped ecological communities within a 5 km radius of the Referral Area (reference 11-1125EC, DBCA 2025b) identified a total of 13 ecological communities listed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act), the <i>WA Biodiversity Conservation Act 2016</i> (BC Act) and/or listed by the DBCA. The buffered extents of TECs/PECs within a 5 km radius search of the Referral Area are presented on <b>Figure 4</b>.</p> <p>Portions of the vegetation within Lot 40 were mapped by Strategen (2019) as Banksia Woodlands of the Swan Coastal Plain (SCP) Threatened Ecological Community (TEC), listed as Endangered under the EPBC Act and now listed as a DBCA Priority Ecological Community (PEC); Priority 3. Strategen (2019) noted that there were no State listed TECs or PECs within Lot 40.</p> <p>The Department of the Environment and Energy (DoEE) (2016) prescribes minimum condition thresholds and key diagnostic criteria to assist in determining the presence of Banksia Woodlands SCP TEC. The diagnostic criteria require the Banksia Woodlands of the SCP TEC to be in "Good" or "Very Good" condition for it to be recognised as the ecological community. The November 2025 site inspection assessed the condition of vegetation in the Referral Area as Completely Degraded where the understorey has largely been replaced by weeds. The vegetation within the Referral Area is not representative of Banksia Woodlands of the SCP TEC.</p> <p>The presence of Tuart trees in the Referral Area was assessed to determine if they may constitute the significant ecological community 'Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain' (EPBC Act listed Critically Endangered TEC and DBCA listed Priority 3 PEC). The Tuart Woodlands TEC and PEC comprises woodlands or forests or other structural forms where the primary defining feature is the presence of <i>Eucalyptus gomphocephala</i> (Tuart) trees in the uppermost canopy layer (Department of the Environment and Energy [DotEE], 2019). The listing of this ecological community under the EPBC Act occurred in July 2019 after the Strategen (2019) EAR and therefore was unlikely to have been considered.</p> <p>The Referral Area comprises three Tuart trees (one tree dead). Based on the Tuart TEC Conservation Advice (DotEE, 2019):</p> <ul style="list-style-type: none"> <li>As an upper limit, an approximate 1.80 ha patch has been inferred to support Tuart trees within and adjacent to the Referral Area. The area to the east of Lot 40 is low-lying and therefore would not support Tuart trees.</li> <li>Based on the Site inspection completed by Aurora Environmental and Strategen (2018) survey of Lot 40, the condition of the 1.80 ha would be considered at best Moderate as a result of the edge effects from nearby development and obvious signs of degradation within and immediately adjacent to the Referral Area.</li> </ul>

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
	<ul style="list-style-type: none"> <li>• Patch sizes <math>\geq 0.5</math> ha and <math>&lt; 2</math> ha in Moderate condition are not considered part of the Tuart TEC/PEC.</li> </ul> <p>Based on the DotEE (2019) condition categories and thresholds the Referral Area is unlikely to meet the key diagnostic characteristics and patch definition for the Tuart TEC.</p>
Significant flora	<p><b>No significant impact.</b></p> <p>A DBCA database search of conservation significant flora species within a 5 km radius of the Referral Area (reference 13-1125FL, DBCA 2025c) was undertaken. This search includes records from the DBCA's Threatened and Priority Flora (TPFL) database and records from the WA Herbarium. The TPFL records have been validated and considered the most reliable data source. The WA Herbarium records have not been validated and are of varying reliability, but provide an indication of the species potentially present. Between the two sets of datasets for conservation significant flora a total of 43 records of significant flora representing 13 taxa were identified (<b>Figure 5</b>), comprised of:</p> <ul style="list-style-type: none"> <li>• Five Threatened taxa;</li> <li>• One Priority 2 taxa;</li> <li>• Four Priority 3 taxa; and</li> <li>• Three Priority 4 taxa.</li> </ul> <p>A LOA was completed for the above species (<b>Appendix 4</b>) by considering information from Florabase, information provided in the spatial datasets from the DBCA and WA Herbarium, government managed datasets (i.e., soil landscape mapping, geology and surface water features), previous surveys and assessments by Bennett Environmental (2010) and Strategen (2019) and the Aurora Environmental November 2025 site observations. The LOA determined all the species recorded within a 5 km radius are unlikely to occur in the Referral Area.</p> <p>One conservation significant flora species listed in the LOA, namely DBCA-listed Priority 3 flora species <i>Jacksonia gracillima</i>, was recorded during the 2009 survey by Bennett Environmental (2010) (though not recorded in the Referral Area). The species was not recorded during the Strategen 2018 survey. The closest record of this species is 3.4 km south of the Referral Area (WA Herbarium). <i>Jacksonia gracillima</i> prefers shrublands in sandy, peaty soil and is often found in low-lying wetter areas or clay pan wetlands. The lack of winter wet depression, swamp or creek within Referral Area and no mapped geomorphic wetlands asserts this species is unlikely to occur in the Referral Area.</p>
Mapped wetland	<p><b>No significant impact.</b></p>

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
	<p>The EPBC Act PMST identified two Wetlands of International Importance (Ramsar) within a 5 km radius of the Referral Area (DCCEW, 2025a, <b>Appendix 3</b>), namely:</p> <ul style="list-style-type: none"> <li>• Forrestdale and Thomsons Lakes (the Referral Area is located approximately 5 km south of this wetland); and</li> <li>• Peel-Yalgorup system (the Referral Area is located 30-40 km upstream from this wetland).</li> </ul> <p>One Nationally Important Wetland (Spectacles Swamp) is located approximately 1.3 km west of the Referral Area (DBCA, 2018b; DBCA-045).</p> <p>The Referral Area does not intersect the above Wetlands of International Importance or any Nationally Important Wetlands.</p> <p>No geomorphic wetlands of the Swan Coastal Plain intersect the Referral Area (DBCA, 2025d; DBCA-019). A series of wetlands surround the Referral Area, the closest being approximately 120 m south (Conservation Category Wetland (CCW); Unique Feature Identifier (UFI) 13506; name unknown; Basin; Sumpland) (<b>Figure 6</b>).</p> <p>Ground disturbing works proposed within the Referral Area will not directly or indirectly impact any wetland systems or features.</p>
Mapped watercourse	<p><b>No significant impact.</b></p> <p>The Referral Area does not intersect any mapped watercourses (DWER, 2018a; DWER-031). A minor tributary (unnamed) is located approximately 800 south-west of the Referral Area. Ground disturbing works proposed within the Referral Area will not directly or indirectly impact any mapped watercourses.</p>
Water resources (e.g. public drinking water supply areas)	<p><b>No significant impact.</b></p> <p>The Referral Area does not intersect any mapped watercourses (DWER, 2018a; DWER-031). The Referral Area is located within the Serpentine River Catchment surface water area (DWER, 2025b; DWER-082) proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act) and within the Lower Serpentine subarea (DWER, 2025c; DWER-080). The Referral Area is located within the proclaimed Serpentine Groundwater area (DWER, 2018b; DWER-034) and the Jandakot Mount 1 groundwater subarea (DWER, 2025d; DWER-083).</p> <p>A Priority 2 Public Drinking Water Source Area (PDWSA) namely the Jandakot Underground Water Pollution Control Area (DWER, 2025e; DWER-033) is located immediately east of the Referral Area. The Referral Area does not intersect the PDWSA and the superficial nature of the ground disturbing works proposed within the Referral Area will not directly or indirectly impact the PDWSA.</p> <p>Works will not require dewatering, and thus no change to surface or groundwater level or quality are expected. No deterioration in surface or groundwater quality is anticipated due to the nature and scale of clearing.</p>

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
Conservation reserve	<p><b>No significant impact.</b></p> <p>No DBCA Legislated Lands &amp; Water conservation reserves (DBCA, 2025e; DBCA-011) intersect the Referral Area; the closest DBCA Legislated Lands &amp; Water area is located approximately 750 m west of the Referral Area (name unknown; Reserve no. 53313; conserved for the purpose of Conservation Park) which buffers the Spectacles Swamp. Review of the Collaborative Australian Protected Areas Database (CAPAD) (DCCEEW, 2025b) identified Reserve no. 53313 as a Nationally protected area.</p> <p>Mapped ESAs, as defined in the <i>Environmental Protection (Environmentally Sensitive Areas) Notice 2005</i> under section 51B of the EP Act, are located within 100 m south and 750 m west of the Referral Area which are consistent with the locations of CCW, Spectacles Swamp and buffer (DWER, 2021b; DWER-046).</p> <p>The Referral Area does not intersect any Bush Forever sites. One Bush Forever site is located 130 km south of the Referral Area (Bush Forever site no. 270; Sandy Lake and Adjacent Bushland, Anketell) (DPLH, 2025a; DPLH-022).</p> <p>Conservation areas within 5 km of the Referral Area are presented on <b>Figure 7</b>.</p>
Land and soil quality	<p><b>No significant impact.</b></p> <p>The Site is situated on the central portions of the Swan Coastal Plain near the interface between the eastern extent of the Spearwood Dunes and the western extent of the Bassendean Dunes system. The Swan Coastal Plain is generally a flat, low-lying belt approximately 23 km wide in the south and 34 km wide in the north. It comprises a series of distinct landforms, aligning roughly parallel to the coast. These units consist of three dunal formations (Quindalup Dunes, Spearwood Dunes and Bassendean Dunes) of aeolian origin, followed by an alluvial zone known as the Pinjarra Plain, which consists of a clayey alluvium that has been transported by rivers and streams from the adjacent Darling Scarp.</p> <p>A review of Statewide soil landscapes confirms the Referral Area transitions between the Bassendean and Spearwood Soil Landscape Systems. The Bassendean Soil Landscape System is described as '<i>Swan Coastal Plain from Busselton to Jurien. Sand dunes and sandplains with pale deep sand, semi-wet and wet soil. Banksia-paperbark woodlands and mixed heaths.</i>' The Spearwood Soil Landscape System is described as '<i>Sand dunes and plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands.</i>' (Department of Primary Industries and Regional Development [DPIRD], 2025b; DPIRD-064; <b>Figure 8</b>). Bassendean soils comprise deep, pale grey, and often iron-oxide-stained quartz sands forming low, undulating hills, representing an ancient coastline on the Swan Coastal Plain. Spearwood soils are characterized by sandy soils with a core of aeolianite limestone, often capped by red and yellow sands.</p> <p>The 1:50k geology map sheet (GoWA, 2025b) indicates the Referral Area intersects one geological layer:</p>

**TABLE 2: ASSESSMENT AGAINST CRITERION TWO**

ENVIRONMENTAL VALUE	ASSESSMENT
	<ul style="list-style-type: none"> <li>Geological code 'S8' described as 'SAND – white to pale grey at surface yellow at depth fine to medium-grained moderately sorted subangular to subrounded minor heavy minerals of eolian origin'.</li> </ul> <p>The 1:50k environmental geology series (Gozzard, 1986) describes the general geological features of geological code 'S8' as follows:</p> <ul style="list-style-type: none"> <li>Sand, which is very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted of eolian origin.</li> </ul> <p>The Referral Area is mapped as a Class II ASS risk area indicating there is a 'Moderate to low risk' of ASS occurring within 3 m of the natural soil surface (DWER, 2025f; DWER-055), refer to <b>Figure 8</b>. The western portion of the Referral Area is mapped as 3-10% of map unit having a high subsurface acidification risk or is presently acid. The eastern portion of the Referral Area is mapped as &gt;70% of map unit having a high subsurface acidification risk or is presently acid (DPIRD, 2025c; DPIRD-011).</p> <p>No registered contaminated sites have been mapped within or in the vicinity of the Referral Area (DWER, 2025g; DWER-059).</p>
Heritage-related values and native title matters	<p><b>No significant impact.</b></p> <p>DPLH records (DPLH, 2025b; 2025c; 2025d) were searched to identify Registered, Lodged and Historic ACH sites occurring within 2 km of the Referral Area. The closest site (Historic and Lodged) is located approximately 800 m to the north:</p> <ul style="list-style-type: none"> <li>Name: Mandogalup Swamp/Spectacles; Place ID 3427; Creation/Dreaming Narrative; Hunting Place: Water Source.</li> </ul> <p>There is no native title determined over the Referral Area. It is recommended an Aboriginal Heritage Management Protocol is included as part of the Contractor Environmental Management Plan (CEMP) to manage unexpected finds encountered during construction</p> <p>The Referral Area does not intersect any State heritage places (DPLH, 2025e; DPLH-006) or Municipal heritage places (DPLH, 2025f; DPLH-008). The Spectacles Wetland is registered as a Municipal heritage place (Place ID 12098) located 750 m west of the Referral Area.</p>

## **2.3 CRITERION THREE – THE STATE OF SCIENTIFIC KNOWLEDGE OF NATIVE VEGETATION WITHIN THE REGION IS ADEQUATE**

The Referral Area is located in a region in which there is a substantial amount of knowledge regarding the ecological values of natural ecosystems. The flora and fauna collections date back to 1953 and as recently as 2025.

## **2.4 CRITERION FOUR – CONDITIONS WILL NOT BE REQUIRED TO MANAGE ENVIRONMENTAL IMPACTS**

The Referral Area is 0.38 ha and will be impacted for the purposes of reducing fire risk for future residential properties currently being developed to the north within Lot 39. Clearing within the Referral Area will be minimised as much as possible by removing vegetation understorey, shrubs and smaller trees, pruning tree branches to eliminate overhang and retaining mature trees where possible.

Standard environmental management controls will be implemented to manage environmental impacts associated with the proposed clearing as follows:

- Survey and peg the permitted clearing extents;
- Ensure ground disturbance is limited to the authorised clearing extents;
- Ensure machinery and equipment are free from weeds and soil prior to entering the proposed clearing area;
- Undertake directional clearing to allow fauna to move away into adjacent vegetation;
- Establish contact with a Wildlife Carer in the event of injury to fauna; and
- Maintain records of clearing activities including the dates clearing was conducted, confirming the extent of clearing and noting fauna injuries or mortalities.

### 3 SUMMARY AND CONCLUSIONS

To reduce the risk of bushfire to the future residential properties being developed on Lot 39 on Diagram 32446 the Proponent is proposing to clear (with the landowners consent) up to 0.38 ha native vegetation on Lot 40 on Diagram 32446 (no. 73 Treeby Road, Anketell) to reduce fuel load (by removing vegetation understorey, shrubs and smaller trees, and pruning branches of existing trees).

It is important to note that the Referral Area is zoned “Urban” under the MRS and “Development” under LPS No.2 and will ultimately be cleared and developed for residential purposes, consistent with the WAPC endorsed Structure Plan (Taylor Burrell Barnett, 2020).

The proposed clearing has been assessed by Aurora Environmental against the criterion outlined in the DWER’s (2021) guidelines on native vegetation clearing referrals. The assessment found:

- The Referral Area is less than the 1 ha threshold for areas within the Metropolitan Perth and Greater Bunbury Regional Scheme constrained areas.
- The clearing impacts will not alter the remaining extent of Vegetation Association 1001, or remaining extent of vegetation within 5 km of the Referral Area.
- The vegetation condition in the Referral Area was assessed as Completely Degraded where the understorey is largely replaced by weeds. The Referral Area is not representative of Banksia Woodlands of the SCP TEC or Tuart Woodlands TEC/PEC.
- The Referral Area comprises low-quality foraging habitat for Carnaby’s Cockatoo and Forest Red-tailed Black Cockatoo. Four trees with a DBH >500 mm were recorded in the Referral Area; none of the trees recorded met all of the criteria to be considered potential black cockatoo breeding habitat. The location of the Referral Area in proximity to a highly disturbed and degraded area which is subjected to construction activities, noise, dust and vibration would deter any black cockatoo breeding or roosting activity.
- The proposed clearing is highly unlikely to impact any threatened flora or threatened fauna. The likelihood of significantly impacting conservation significant flora or fauna is considered low due to the small extent of clearing proposed and the proximity of the Referral Area to existing disturbances.
- The proposed clearing occurs on the edges of a highly disturbed and degraded development and will not alter ecological linkage values within the local area.
- The Referral Area is located adjacent to the Priority 2 PDWSA, namely the Jandakot Underground Water Pollution Control Area. The superficial nature of the ground disturbing works proposed within the Referral Area will not directly or indirectly impact the PDWSA.
- Ground disturbing activities proposed within the Referral Area will not impact any wetlands, watercourses, conservation reserves, ESAs or known heritage sites.

Based on the assessment outlined in this report, Aurora Environmental considers the proposed clearing is low impact, and that the potential impacts to the environment can be adequately managed through the implementation of the proposed environmental management measures. As a result of this assessment, Aurora Environmental considers a clearing permit is not required.

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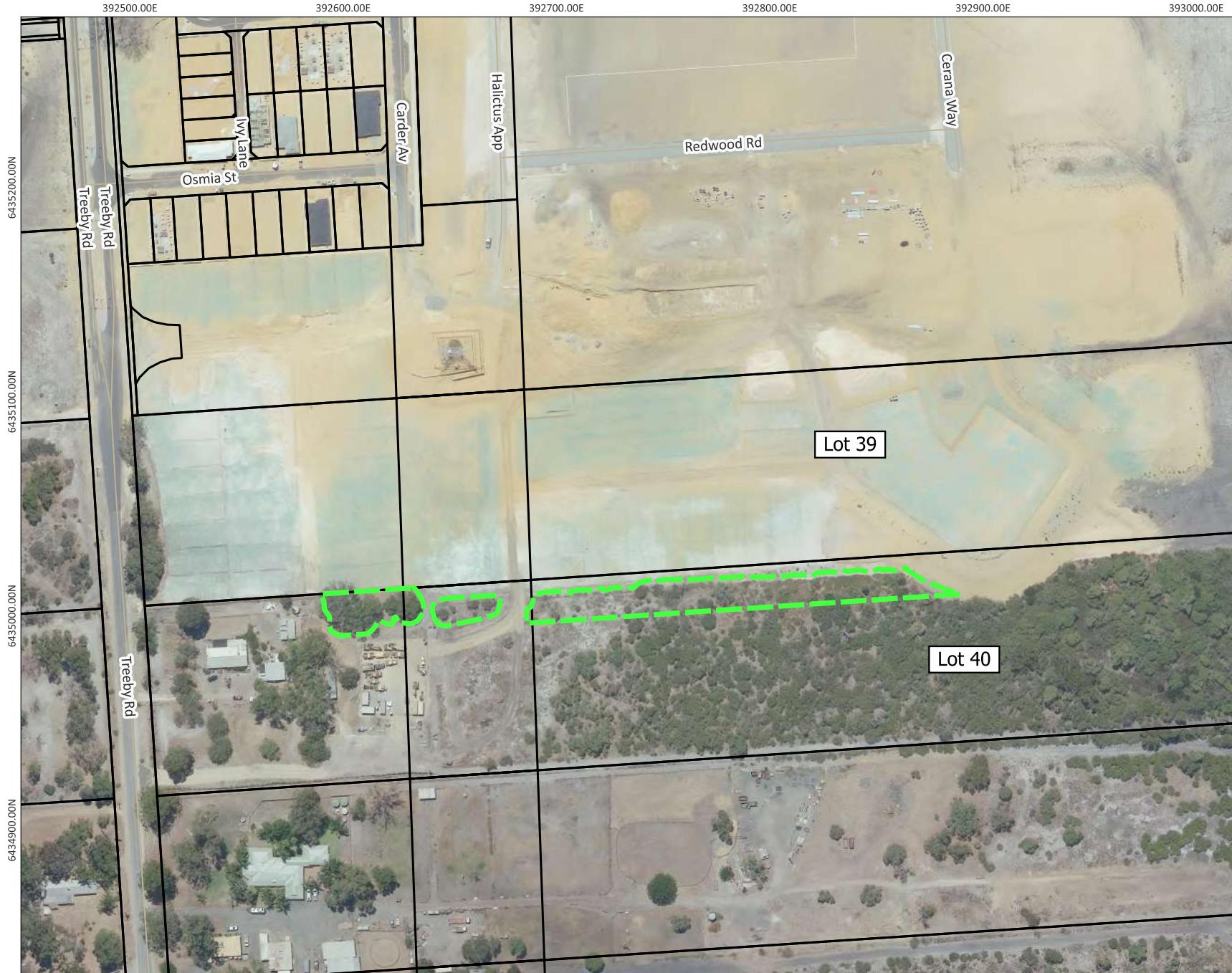
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## **FIGURES**



## LEGEND

Referral Area

**FIGURE 1**  
Referral Area

Project: JAR/PP04/046  
Author: MB  
Date: 28/11/2025  
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Doc:  
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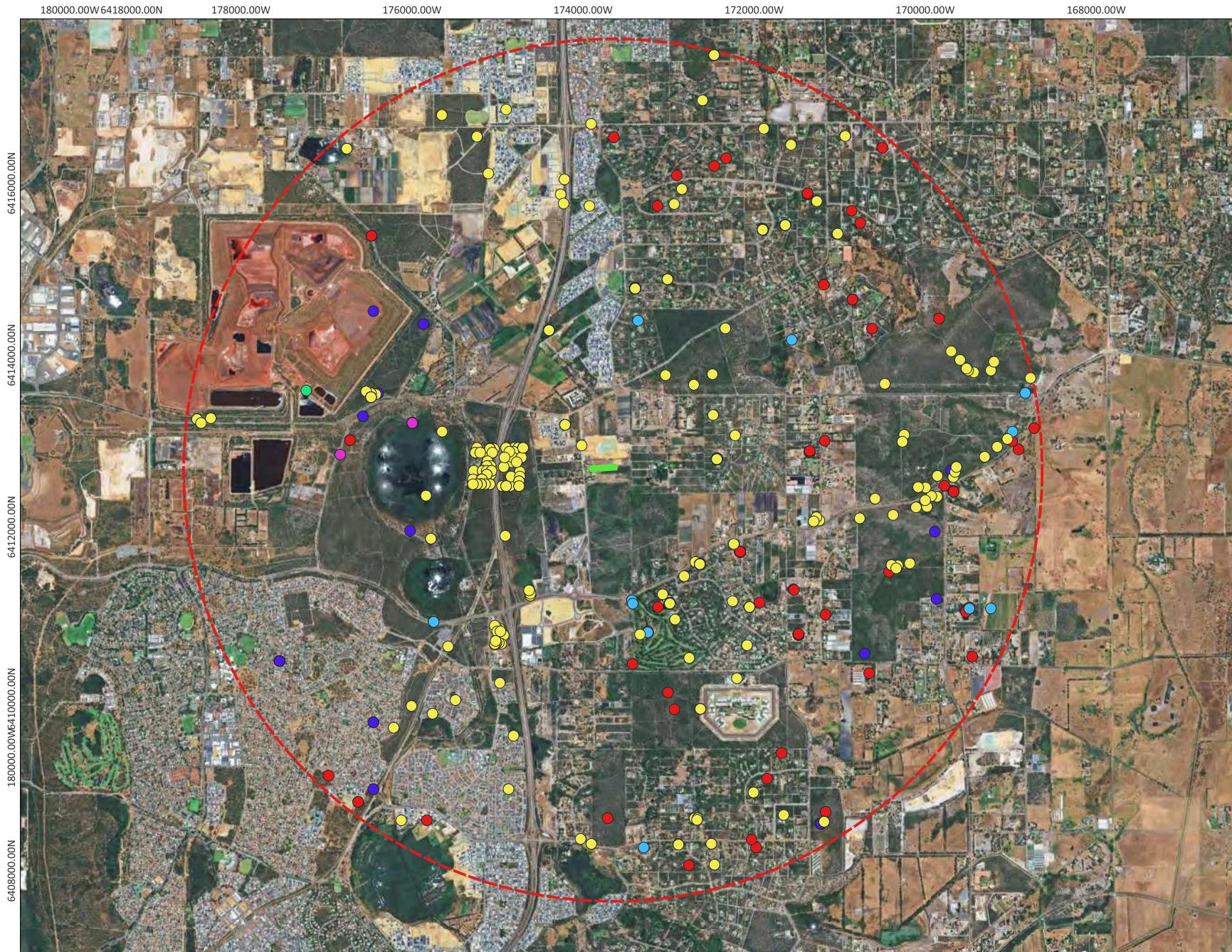




**FIGURE 2**  
 Vegetation Condition and Significant Trees

**LEGEND**

- Referral Area
- 0.38 ha native vegetation Completely Degraded condition
- DBH Trees
  - Eucalyptus gomphocephala
  - Eucalyptus sp



**FIGURE 3**  
Significant Fauna

Project: JAR/PP04/046  
Author: MB  
Date: 28/11/2025  
Ver: 01  
Doc:  
JAR-PP04046\_CREF\_001\_mb\_V01  
Scale: 74000 @A4  
CRS: WGS 84 / Pseudo-Mercator

Image source: Google Earth Satellite (2025)  
Data sources: Cadastre (LGATE-002), Roads (LGATE-195)

0 1 2 km

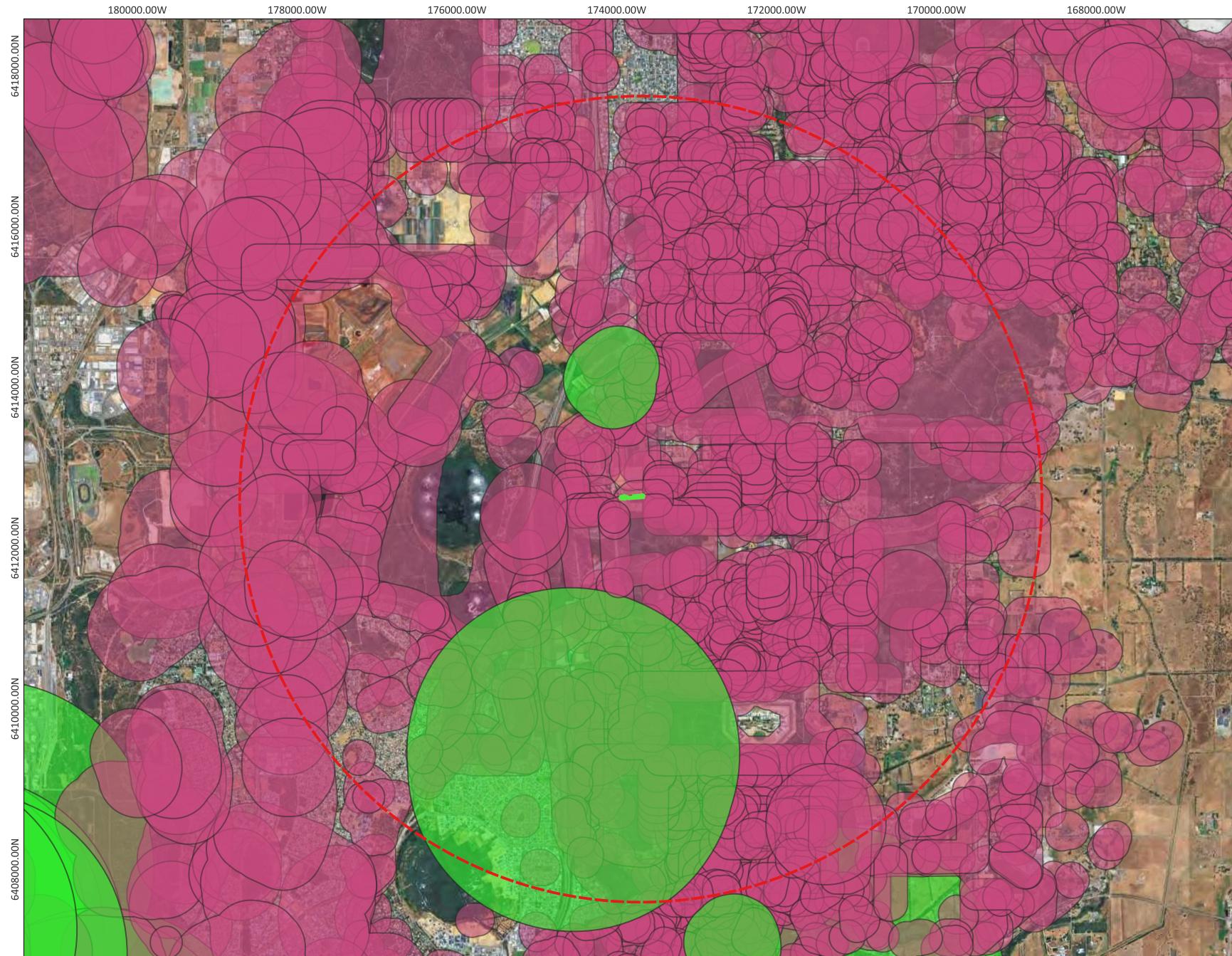


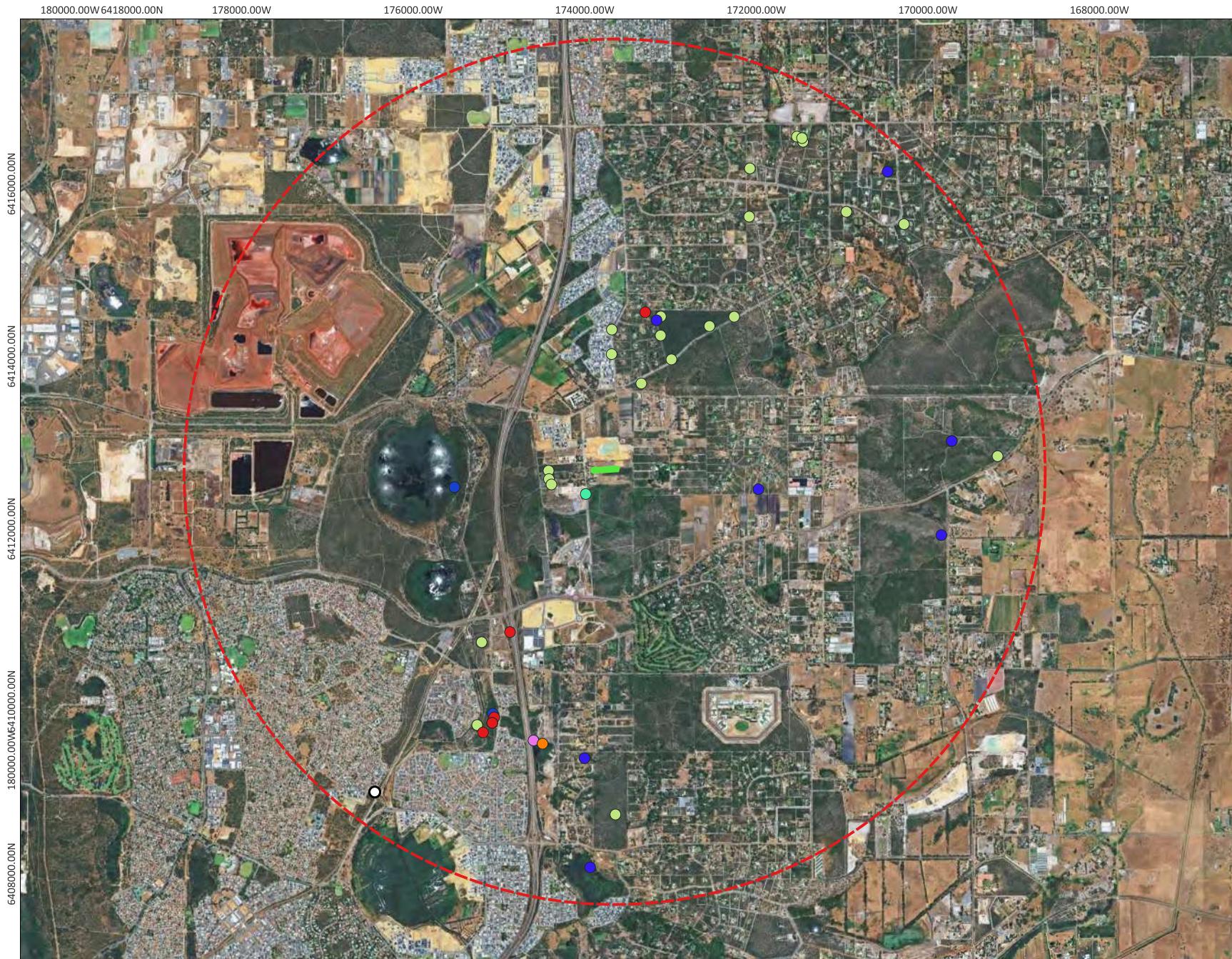
Image source: Google Earth Satellite (2025)  
Data sources: Cadastre (LGATE-002), Roads (LGATE-195)

0 1 2 km

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**FIGURE 4**  
Significant Vegetation  
Communities

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**FIGURE 5**

**Significant Flora**

Project: JAR/PP04/046  
 Author: MB  
 Date: 28/11/2025  
 Ver: 01  
 Doc:  
 JAR-PP04046\_CREF\_001\_mb\_V01  
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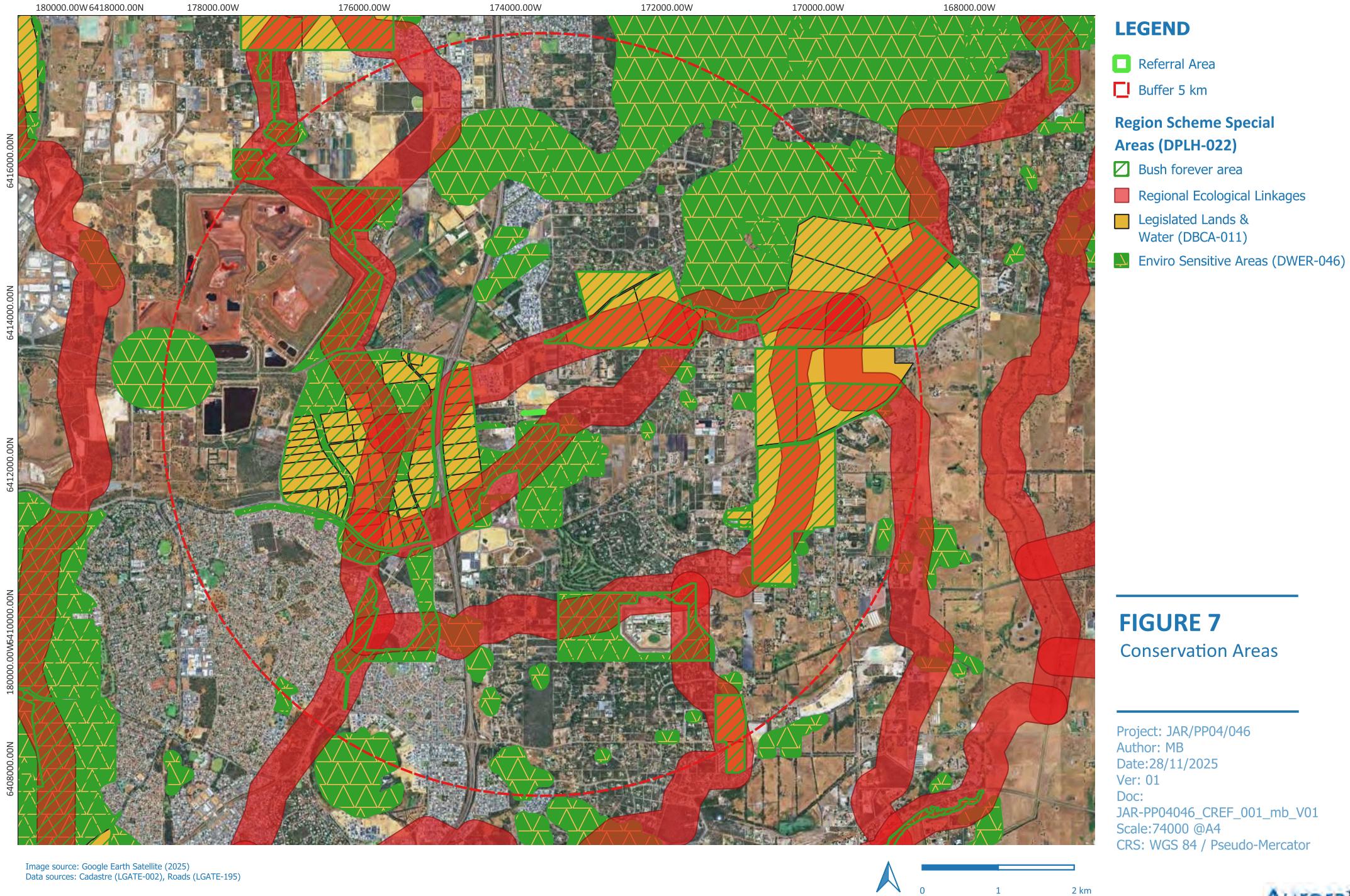
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0 1 2 km



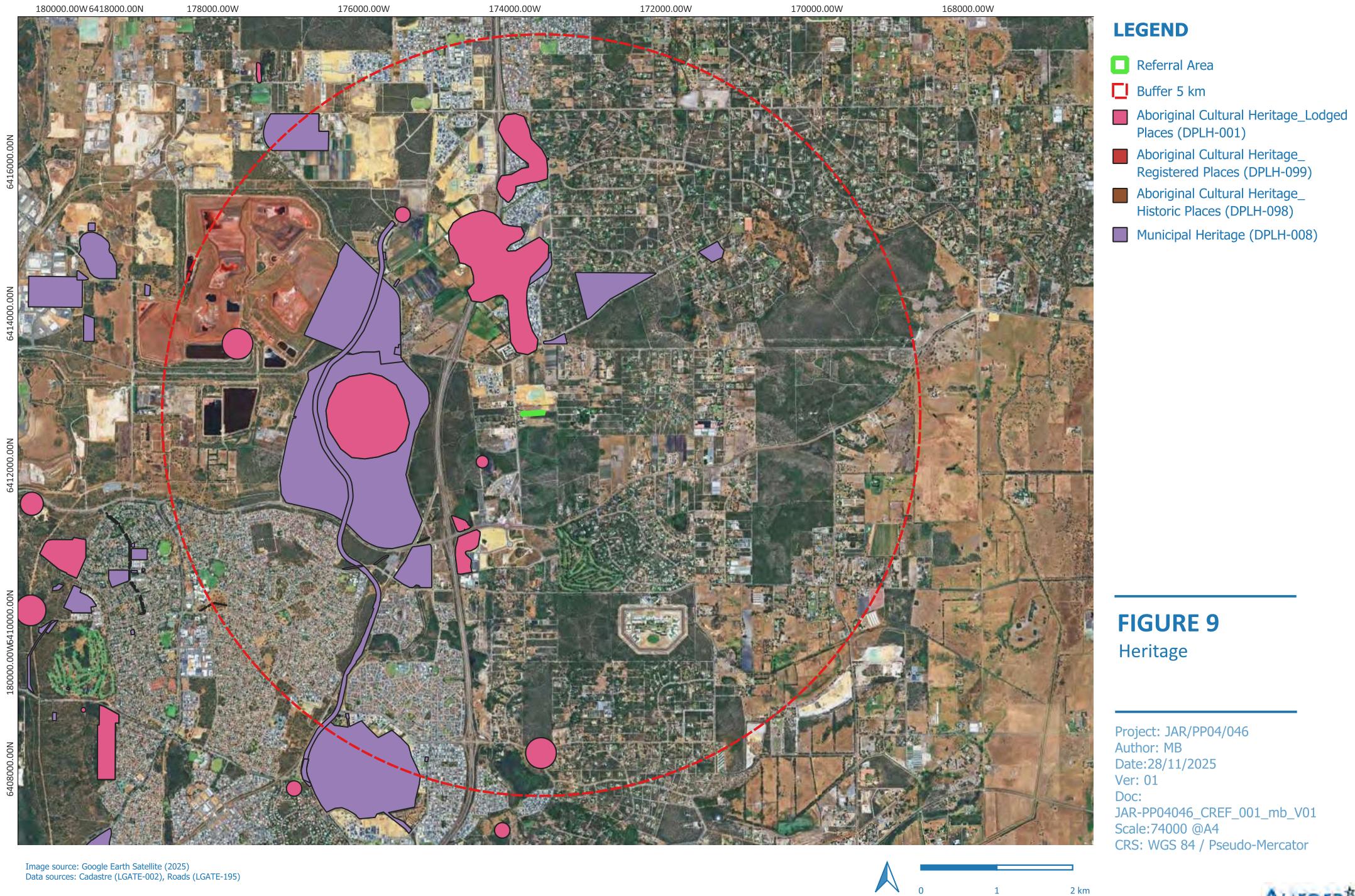
**FIGURE 6**  
Hydrology





**FIGURE 8**  
Soils

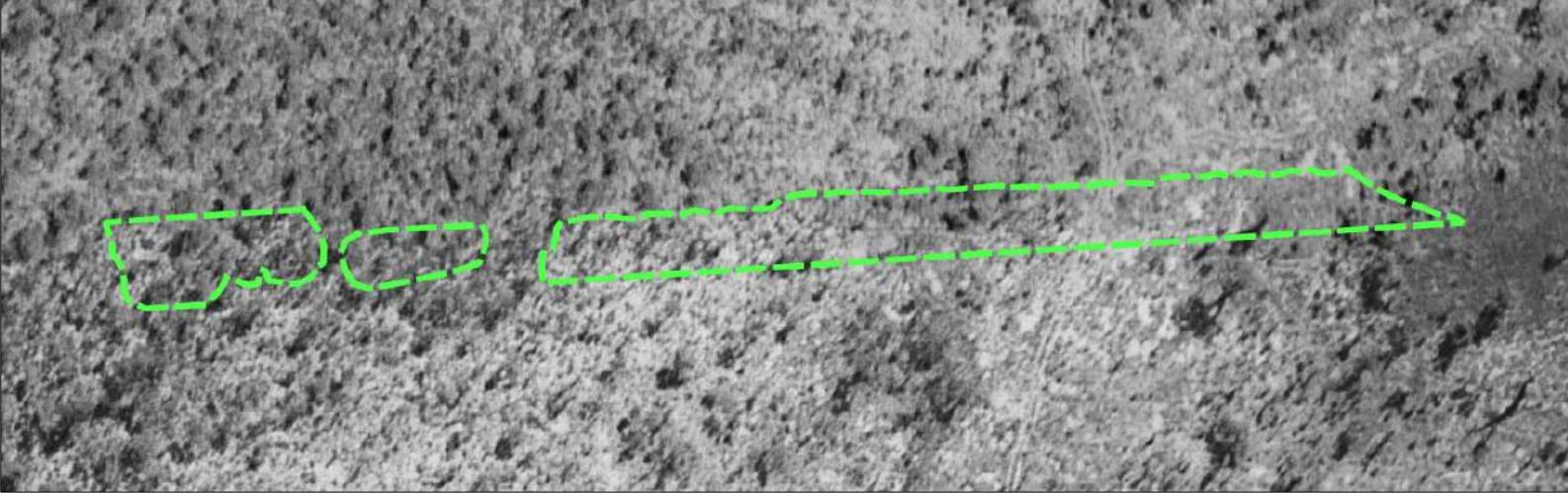
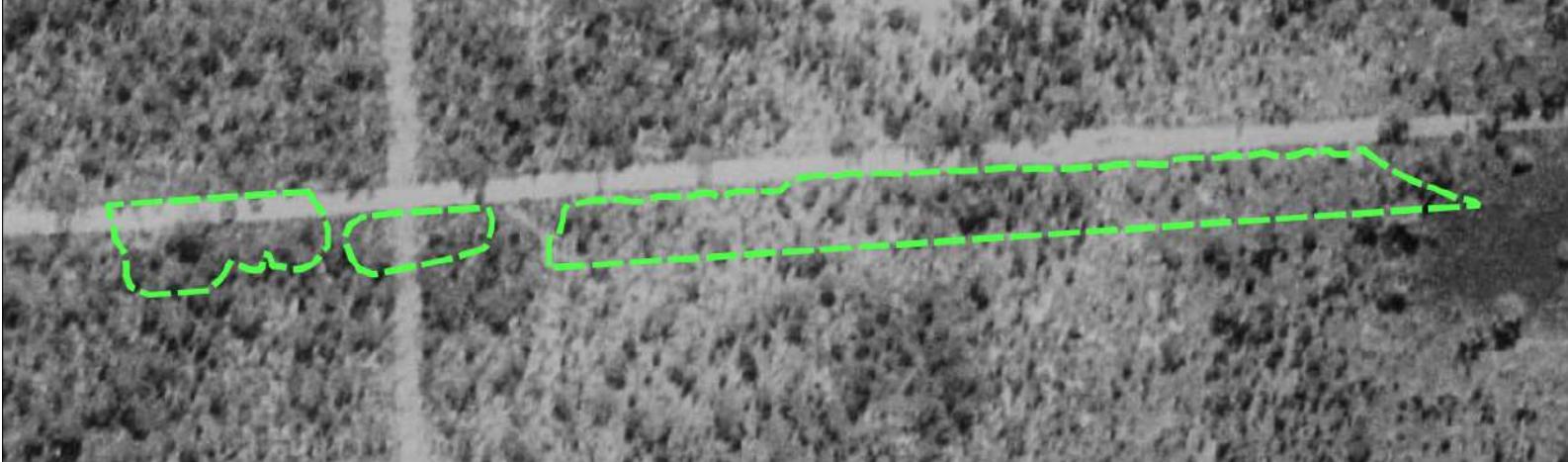
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## **APPENDIX 1**

### **Historical Aerial Photographs**

## HISTORICAL AERIAL IMAGERY 1965-2025

YEAR	COMMENT	IMAGE
1965	Referral Area entirely vegetated. Area to the east appears to be low lying.	 Aerial imagery from 1965 showing a dark, textured area representing vegetation. A dashed green line outlines a specific area of interest, which appears to be a clearing or a low-lying area to the east of the main vegetated area.
1974	Minor clearing has occurred to establish perimeter boundaries.	 Aerial imagery from 1974 showing the same area as in 1965. The dashed green boundary line is present, and the area within it appears to have some minor clearing or establishment of perimeter boundaries.

## HISTORICAL AERIAL IMAGERY 1965-2025

YEAR	COMMENT	IMAGE
<b>1985</b>	<p>A rural residential property, with associated supporting buildings and infrastructure, is established to the west of the Referral Area. Lot#39 to the north of the Referral Area has been entirely cleared to the west, and vegetation has been thinned-out to the north of the Referral Area.</p>	
<b>1995</b>	<p>Lot#39 entirely cleared to the north. The Referral Area has been mostly cleared with intermittent trees retained.</p>	

## HISTORICAL AERIAL IMAGERY 1965-2025

YEAR	COMMENT	IMAGE
<b>2005</b>	Vegetation within the Referral Area has re-established.	
<b>2015</b>	Vegetation within the Referral Area has re-established and remains similar to 2005.	

## HISTORICAL AERIAL IMAGERY 1965-2025

YEAR	COMMENT	IMAGE
<b>2020</b>	Vegetation within the Referral Area has re-established.	
<b>2025</b>	Vegetation remains within the Referral Area. Further clearing has occurred in Lot#39 and an access track through Lot#40 has been constructed to what appears to be an area where vehicles are parking.	

## **APPENDIX 2**

### **Significant Fauna Likelihood of Occurrence Assessment – Taxa Within 5 km**

**SIGNIFICANT FAUNA LIKELIHOOD OF OCCURRENCE ASSESSMENT – TAXA WITHIN 5 KM**

CLASS	TAXON	BC ACT / DBCA CONSERVATION CODE	NEAREST RECORD	HABITAT	COMMENT	LIKELIHOOD ASSESSMENT
Bird	<i>Oxyura australis</i> Blue-billed duck	Priority 4	1.8 km west	Completely aquatic. Deep water in large permanent wetlands and swamps with dense aquatic vegetation.	The Referral Area does not contain suitable habitat for this species. The records associated with the Blue-billed duck are located at Spectacles Swamp which comprises compatible habitat to support the species.	<b>Unlikely</b>
Bird	<i>Zanda latirostris</i> Carnaby's cockatoo	Threatened (Endangered)	1.6 km south	Uncleared or remnant native eucalypt woodlands, especially those that contain salmon gum and wandoo, and in shrubland or kwongan heathland dominated by hakea, dryandra, banksia and grevillea species. It also occurs in remnant patches of native vegetation on land otherwise cleared for agriculture.	Although the Referral Area may comprise vegetation suitable to black cockatoos for foraging, roosting or breeding, the site assessment did not identify hollows or chewed nuts that might indicate trees had been utilised as habitat by black cockatoo species. Mature trees within the Referral Area will be retained and pruned, and only vegetation understorey will be removed to reduce fuel load supporting the assertion that the proposed clearing will not adversely impact this species.	<b>Likely</b>
Bird	<i>Actitis hypoleucos</i> Common sandpiper	Specially Protected - Migratory	2 km west	Coastal wetlands and some inland wetlands, with varying levels of salinity. Mostly found around muddy margins or rocky shores and rarely on mudflats.	The Referral Area does not contain suitable habitat for this species. Spectacles Swamp, where the species is recorded, comprises compatible habitat to support the species.	<b>Unlikely</b>
Bird	<i>Calyptorhynchus banksii naso</i> Forest red-tailed black cockatoo	Threatened (Vulnerable)	1.6 km south	Dense Eucalypt forests receiving >600 mm rainfall especially of Eucalyptus marginata (jarrah), E. diversicolor (karri) and Corymbia calophylla (marri).	Although the Referral Area may comprise vegetation suitable for black cockatoos for foraging, roosting or breeding, the site assessment did not identify hollows or chewed nuts that might indicate trees had been utilised as habitat by black cockatoo species. Mature trees within the Referral Area will be retained and pruned and only vegetation understorey will be removed to reduce fuel load supporting the assertion that the proposed clearing will not adversely impact this species.	<b>Likely</b>
Bird	<i>Plegadis falcinellus</i> Glossy ibis	Specially Protected - Migratory	2.8 km west	Glossy ibises prefer to inhabit shallow freshwater and brackish wetlands, such as swamps, marshes, and floodplains.	The Referral Area does not contain suitable habitat for this species. Spectacles Swamp, where the species is recorded, comprises compatible habitat to support the species.	<b>Unlikely</b>
Mammal	<i>Dasyurus geoffroii</i> Chuditch, western quoll	Threatened (Vulnerable)	900 m west	Jarrah Eucalyptus marginata forest woodland or mallee shrubland, specifically in moist, densely vegetated, steep-sloping forest and riparian vegetation.	Habitat critical to the survival of the Chuditch relies on adequate den resources (e.g. hollow logs, burrows or rock crevices), adequate prey resources (particularly large invertebrates) and sizeable areas (>20,000 ha) (DEC 2012a). Habitat within the Referral Area does not support the presence of the Chuditch.	<b>Unlikely</b>
Mammal	<i>Isoodon fusciventer</i> Quenda	Priority 4	270 m north	The Quenda is distributed along coastal margins in Western Australia ranging from Yanchep to Cape Le Grand and inland to Wyalup Catchment and Hyden. The species prefers scrubby, often swampy, vegetation with dense cover up to 1 m high, often feeds in adjacent forest and woodland that is burnt on a regular basis and in areas of pasture and cropland lying close to dense cover. Dense vegetation surrounding waterways is preferred to provide protection and foraging opportunities.	The Referral Area may comprise habitat for foraging however given the relatively small scale of clearing required, it is considered unlikely the Referral Area represents key habitat for the maintenance of the Quenda.	<b>Likely</b>
Mammal	<i>Phascogale tapoatafa</i> wambenger South-western brush-tailed phascogale	Specially Protected - Conservation Dependent	3.6 km north-west	Dry sclerophyll forests and open woodlands that contain hollow-bearing trees.	The species relies on large hollow-bearing trees as they are primarily arboreal and rely on these trees for shelter and foraging. Mature trees within the Referral Area will be retained and pruned, and only vegetation understorey will be removed to reduce fuel load supporting the assertion that the proposed clearing will not adversely impact this species.	<b>Unlikely</b>
Mammal	<i>Notamacropus irma</i> Western brush wallaby	Priority 4	2.5 km south	Open forest or woodland, particularly open, seasonally-wet flats with low grasses and open scrubby thickets. Occasionally found in mallee and heathland. Uncommon in karri forest with a dense understorey.	The species could be a possible visitor to the Referral Area, however it is considered unlikely the Referral Area represents key habitat for the maintenance of the Western Brush Wallaby.	<b>Unlikely</b>

**SIGNIFICANT FAUNA LIKELIHOOD OF OCCURRENCE ASSESSMENT – TAXA WITHIN 5 KM**

CLASS	TAXON	BC ACT / DBCA CONSERVATION CODE	NEAREST RECORD	HABITAT	COMMENT	LIKELIHOOD ASSESSMENT
Invertebrate	<i>Synemon gratiosa</i> Graceful sunmoth	Priority 4	1.2 km north-east	Coastal sand dunes and Banksia woodlands on the Swan Coastal Plain in Western Australia.	The species may occasionally utilise the vegetation in the Referral Area however it is considered unlikely the Referral Area represents key habitat for the maintenance of the species.	<b>Unlikely</b>
Invertebrate	<i>Idiosoma sigillatum</i> Swan Coastal Plain shield-backed trapdoor spider	Priority 3	3.8 km south-west	Banksia woodland and heathland on sandy soils. In areas of remnant native bushland on the Swan Coastal Plain and the sandy foothills of the Darling Scarp, from Dalyellup to Gingin.	The species may occasionally utilise the vegetation in the Referral Area however it is considered unlikely the Referral Area represents key habitat for the maintenance of the species.	<b>Unlikely</b>
Reptile	<i>Neelaps calonotos</i> Black-striped snake	Priority 3	3.8 km east	Coastal and near-coastal dunes, sandplains supporting heathlands and <i>Banksia</i> spp. woodlands.	The species may occasionally utilise the vegetation in the Referral Area however it is considered unlikely the Referral Area represents key habitat for the maintenance of the species.	<b>Unlikely</b>
Reptile	<i>Lerista lineata</i> Perth slider, lined skink	Priority 3	2.1 km south-west	Sandy coastal heath and low scrubland. Banksia spp. woodland, <i>Eucalyptus gomphocephala</i> open woodland over deep sands, and coastal dunes immediately adjacent to the beach.	Species records are associated with the Spectacles Swamp and surrounding vegetation. The species may occasionally utilise the vegetation in the Referral Area however it is considered unlikely the Referral Area represents key habitat for the maintenance of the species.	<b>Unlikely</b>

## **APPENDIX 3**

### Desktop Search



# 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: 14-Nov-2025

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

# 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](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar</a>	2
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	5
<a href="#">Listed Threatened Species:</a>	35
<a href="#">Listed Migratory Species:</a>	13

## 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.

<a href="#">Commonwealth Lands:</a>	1
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	17
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	None

## Extra Information

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

<a href="#">State and Territory Reserves:</a>	7
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	2
<a href="#">EPBC Act Referrals:</a>	67
<a href="#">Key Ecological Features (Marine):</a>	None
<a href="#">Biologically Important Areas:</a>	1
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	None

# Details

## Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[ Resource Information ]	
Ramsar Site Name <a href="#">Forrestdale and thomsons lakes</a>		Proximity Within Ramsar site	Buffer Status In feature area
<a href="#">Peel-yalgorup system</a>		30 - 40km upstream from Ramsar site	In feature area

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
<a href="#">Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain</a>	Endangered	Community known to occur within area	In buffer area only
<a href="#">Banksia Woodlands of the Swan Coastal Plain ecological community</a>	Endangered	Community likely to occur within area	In feature area
<a href="#">Empodium peatlands of southwestern Australia</a>	Endangered	Community may occur	In feature area
<a href="#">Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion</a>	Critically Endangered	Community likely to occur within area	In buffer area only
<a href="#">Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community</a>	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
<a href="#">BIRD</a>			
<a href="#">Botaurus poiciloptilus</a> Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u><i>Calidris acuminata</i></u></a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#"><u><i>Calidris canutus</i></u></a> Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#"><u><i>Calidris ferruginea</i></u></a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#"><u><i>Calyptorhynchus banksii naso</i></u></a> Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#"><u><i>Charadrius leschenaultii</i></u></a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#"><u><i>Leipoa ocellata</i></u></a> Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#"><u><i>Numenius madagascariensis</i></u></a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#"><u><i>Rostratula australis</i></u></a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#"><u><i>Sternula nereis nereis</i></u></a> Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#"><u><i>Tringa nebularia</i></u></a> Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#"><u><i>Zanda baudinii</i></u> listed as <a href="#"><u><i>Calyptorhynchus baudinii</i></u></a> Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]</a>	Endangered	Roosting known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u>Zanda latirostris listed as <i>Calyptorhynchus latirostris</i></u></a>			
Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area	In feature area
<b>INSECT</b>			
<a href="#"><u>Leioproctus douglasiellus</u></a> a short-tongued bee [66756]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
<b>MAMMAL</b>			
<a href="#"><u>Bettongia penicillata ogilbyi</u></a> Woylie [66844]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#"><u>Dasyurus geoffroii</u></a> Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#"><u>Pseudocheirus occidentalis</u></a> Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Setonix brachyurus</u></a> Quokka [229]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<b>OTHER</b>			
<a href="#"><u>Westralunio carteri</u></a> Carter's Freshwater Mussel, Ambiguus Mussel [86266]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<b>PLANT</b>			
<a href="#"><u>Andersonia gracilis</u></a> Slender Andersonia [14470]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Banksia mimica</u></a> Summer Honeypot [82765]	Endangered	Species or species habitat may occur within area	In feature area
<a href="#"><u>Caladenia huegelii</u></a> King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#"><u>Diuris drummondii</u></a> Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u>Diuris micrantha</u></a> Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#"><u>Diuris purdiei</u></a> Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Drakaea elastica</u></a> Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#"><u>Drakaea micrantha</u></a> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Eleocharis keigheryi</u></a> Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#"><u>Eucalyptus x balanites</u></a> Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#"><u>Lepidosperma rostratum</u></a> Beaked Lepidosperma [14152]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#"><u>Morelotia australiensis listed as Tetraria australiensis</u></a> Southern Tetraria [92784]	Vulnerable	Species or species habitat may occur within area	In feature area
<a href="#"><u>Synaphea sp. Fairbridge Farm (D.Papenfus 696)</u></a> Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
<a href="#"><u>Synaphea sp. Pinjarra Plain (A.S.George 17182)</u></a> [86878]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#"><u>Synaphea sp. Serpentine (G.R.Brand 103)</u></a> [86879]	Critically Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u>Pristis pristis</u></a> Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Endangered	Species or species habitat may occur within area	In feature area
<b>Listed Migratory Species</b>			<u>[ Resource Information ]</u>
Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u>Migratory Marine Birds</u></a> <a href="#"><u>Apus pacificus</u></a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Sterna dougallii</u></a> Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<b>Migratory Marine Species</b>			
<a href="#"><u>Pristis pristis</u></a> Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Endangered	Species or species habitat may occur within area	In feature area
<b>Migratory Terrestrial Species</b>			
<a href="#"><u>Motacilla cinerea</u></a> Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
<b>Migratory Wetlands Species</b>			
<a href="#"><u>Actitis hypoleucus</u></a> Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
<a href="#"><u>Calidris acuminata</u></a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#"><u>Calidris canutus</u></a> Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Calidris ferruginea</u></a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#"><u>Calidris melanotos</u></a> Pectoral Sandpiper [858]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u>Charadrius leschenaultii</u></a>			
Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Numenius madagascariensis</u></a>			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#"><u>Pandion haliaetus</u></a>			
Osprey [952]		Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Tringa nebularia</u></a>			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

## 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		
Unknown				
Commonwealth Land - [50737]	WA	In buffer area only		

Listed Marine Species	[ Resource Information ]		
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
<a href="#"><u>Actitis hypoleucus</u></a>			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
<a href="#"><u>Apus pacificus</u></a>			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#"><u>Bubulcus ibis as Ardea ibis</u></a>			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u>Calidris acuminata</u></a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#"><u>Calidris canutus</u></a> Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#"><u>Calidris ferruginea</u></a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
<a href="#"><u>Calidris melanotos</u></a> Pectoral Sandpiper [858]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#"><u>Charadrius leschenaultii</u></a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#"><u>Haliaeetus leucogaster</u></a> White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
<a href="#"><u>Merops ornatus</u></a> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#"><u>Motacilla cinerea</u></a> Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#"><u>Numenius madagascariensis</u></a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#"><u>Pandion haliaetus</u></a> Osprey [952]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#"><u><i>Rostratula australis</i> as <i>Rostratula benghalensis</i> (sensu lato)</u></a>			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#"><u><i>Sterna dougallii</i></u></a>			
Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<a href="#"><u><i>Thinornis cucullatus</i> as <i>Thinornis rubricollis</i></u></a>			
Hooded Plover, Hooded Dotterel [87735]		Species or species habitat may occur within area overfly marine area	In buffer area only
<a href="#"><u><i>Tringa nebularia</i></u></a>			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

## Extra Information

State and Territory Reserves		[ Resource Information ]	
Protected Area Name	Reserve Type	State	Buffer Status
Banksia	Nature Reserve	WA	In buffer area only
Harry Waring Marsupial Reserve	Nature Reserve	WA	In buffer area only
Modong	Nature Reserve	WA	In buffer area only
Thomsons Lake	Nature Reserve	WA	In buffer area only
Unnamed WA48291	Conservation Park	WA	In buffer area only
Unnamed WA53313	Conservation Park	WA	In feature area
Wandi	Nature Reserve	WA	In buffer area only
Nationally Important Wetlands		[ Resource Information ]	
Wetland Name		State	Buffer Status
<a href="#"><u>Gibbs Road Swamp System</u></a>		WA	In buffer area only
<a href="#"><u>Spectacles Swamp</u></a>		WA	In buffer area only

EPBC Act Referrals		[ Resource Information ]		
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<a href="#">Anketell Road Upgrade (Leith Road to Kwinana Freeway)</a>	2024/09841		Assessment	In feature area
<a href="#">Eradication of the European House Borer, Perth metropolitan area, WA</a>	2009/5027		Completed	In buffer area only
<a href="#">Hammond Park Mixed Use Development</a>	2024/09820		Assessment	In buffer area only
<a href="#">King Road Sand Mining Project</a>	2023/09637		Assessment	In buffer area only
<a href="#">Kwinana Alumina Refinery ? Future Residue Storage Area</a>	2023/09454		Completed	In buffer area only
<a href="#">Lot 16 Barfield Road: Residential Development</a>	2023/09450		Approval	In buffer area only
<a href="#">Orton Road Upgrade Project</a>	2023/09680		Completed	In buffer area only
<a href="#">Residential Development, Wattleup Road, Hammond Park, WA</a>	2021/8933		Post-Approval	In buffer area only
<a href="#">Wellard Road Widening Project</a>	2023/09570		Referral Decision	In buffer area only
<b>Controlled action</b>				
<a href="#">Alcoa Bauxite Residue Storage Area Extension</a>	2011/5878	Controlled Action	Further Information Request	In buffer area only
<a href="#">Clearing of Lots 2 and 10 Rowley Road, Mandogalup WA</a>	2018/8182	Controlled Action	Assessment Approach	In buffer area only
<a href="#">Development of Kwinana Quay port facility</a>	2008/4387	Controlled Action	Completed	In feature area
<a href="#">Develop three sites into residential housing and mixed use developments, Western Australia</a>	2013/6916	Controlled Action	Post-Approval	In buffer area only
<a href="#">Extraction of sand from Lot 6 Banksia Road &amp; lots 300 &amp; 301 Boomerang Road, WA</a>	2010/5622	Controlled Action	Post-Approval	In buffer area only
<a href="#">Hammond Park Secondary School development, WA</a>	2016/7741	Controlled Action	Post-Approval	In buffer area only
<a href="#">Honeywood Estate Development</a>	2010/5476	Controlled Action	Post-Approval	In buffer area only
<a href="#">Latitude 32-industrial development of various lots, Ashley and Sayer Roads, Hope Valley, WA</a>	2016/7695	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<b>Controlled action</b>				
<a href="#">Lot 2 Corner Durrant Avenue and Sicklemore Road - Residential Development</a>	2011/5882	Controlled Action	Completed	In buffer area only
<a href="#">Lots 13, 14 &amp; 18 Barfield Rd &amp; Lots 48-51 Rowley Rd, Hammond Park</a>	2012/6524	Controlled Action	Post-Approval	In buffer area only
<a href="#">Mandogalup Urban Development, Mandogalup, WA</a>	2014/7308	Controlled Action	Post-Approval	In buffer area only
<a href="#">Natural Gas Pipeline Expansion</a>	2006/2813	Controlled Action	Post-Approval	In buffer area only
<a href="#">Residential development, Bertram, WA</a>	2017/7887	Controlled Action	Further Information Request	In buffer area only
<a href="#">Residential Development, Lot 123 Mortimer Road, Casuarina, WA</a>	2018/8379	Controlled Action	Assessment Approach	In buffer area only
<a href="#">Residential development of various lots</a>	2019/8500	Controlled Action	Proposed Decision	In buffer area only
<a href="#">Residential developmnt, Lots 11 and 74 Beenyup Road, Banjup, WA</a>	2017/7923	Controlled Action	Post-Approval	In buffer area only
<a href="#">Residential Estate Development, Lot 682 Rowley Road, Mandogalup, Western Australia</a>	2014/7126	Controlled Action	Post-Approval	In buffer area only
<a href="#">Sand Mining 70/915 Banksia Road, Wellard, WA</a>	2015/7438	Controlled Action	Post-Approval	In buffer area only
<b>Not controlled action</b>				
<a href="#">'Looping 10' gas transmission pipeline from Kwinana to Hopelands</a>	2005/2212	Not Controlled Action	Completed	In feature area
<a href="#">Bushfire hazard reduction, Lot 37 Barfield Road, Hammond Park, WA</a>	2018/8204	Not Controlled Action	Completed	In buffer area only
<a href="#">Clearing of Native Vegetation, Hammond Park, WA</a>	2011/6041	Not Controlled Action	Completed	In buffer area only
<a href="#">Construction of Hammond Road Primary School, Hammond Park, WA</a>	2012/6619	Not Controlled Action	Completed	In buffer area only
<a href="#">Development of Lots 100-101 Sayer Road, Hope Valley, WA</a>	2019/8399	Not Controlled Action	Completed	In buffer area only
<a href="#">Expansion of existing Ammonium Nitrate Production Facility</a>	2005/1941	Not Controlled Action	Completed	In buffer area only
<a href="#">Frankland Parks Oval project, Hammond Park, WA</a>	2018/8369	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
<a href="#">Gas-fired Power Station</a>	2005/2213	Not Controlled Action	Completed	In feature area
<a href="#">Hammond West Urban Development, Hammond Park, WA</a>	2017/7917	Not Controlled Action	Completed	In buffer area only
<a href="#">Hazard reduction and site access, Lot 682 Rowley Road, Mandogalup, WA</a>	2018/8186	Not Controlled Action	Completed	In buffer area only
<a href="#">Hope Valley-Wattleup Redevelopment Project</a>	2020/8644	Not Controlled Action	Completed	In buffer area only
<a href="#">Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia</a>	2015/7522	Not Controlled Action	Completed	In feature area
<a href="#">INDIGO Central Submarine Telecommunications Cable</a>	2017/8127	Not Controlled Action	Completed	In feature area
<a href="#">Industrial development 105 Sayer Road, Hope Valley, WA</a>	2014/7261	Not Controlled Action	Completed	In buffer area only
<a href="#">Industrial Development Lot 64 Ashley Road, Hope Valley, WA</a>	2014/7238	Not Controlled Action	Completed	In buffer area only
<a href="#">Kwinana Gas-Fired Power Station</a>	2005/2101	Not Controlled Action	Completed	In feature area
<a href="#">Lot 28 157 Barfield Road, Hammond Park - Proposed Residential Development</a>	2021/9063	Not Controlled Action	Completed	In buffer area only
<a href="#">Lot 29 Barfield Road, Hammond Park</a>	2017/7948	Not Controlled Action	Completed	In buffer area only
<a href="#">Oakford Village development, Shire of Serpentine-Jarrahdale, WA</a>	2018/8157	Not Controlled Action	Completed	In buffer area only
<a href="#">Perth Seawater Desalination Project: Thomsons Lake to Kogolup Pipeline</a>	2005/1971	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential Development, Lot 12 Lyon Road, Aubin Grove, WA</a>	2013/6852	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential development, Lot 13 Lyon Road, Aubin Grove, WA</a>	2014/7151	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential development, Lot 33 Barfield Road, Hammond Park, WA</a>	2015/7548	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential development, Lot 74 Wattleup Road, Hammond Park, WA</a>	2018/8273	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential development, Lots 124 and 125, Wattleup Road,</a>	2015/7519	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action <a href="#">Hammond Park, WA</a>				
<a href="#">Residential development, Lots 1 and 7-11 Lyon Rd and Lot 88 De Haer Rd, Wandi, WA</a>	2017/7908	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential development of Lot 7 Anketell Rd, Anketell, WA</a>	2018/8281	Not Controlled Action	Completed	In feature area
<a href="#">Residential Development of Lots 76 and 107 Wattleup Road, Hamond Park</a>	2020/8865	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential estate, multiple lots, Mandogalup, WA</a>	2018/8264	Not Controlled Action	Completed	In buffer area only
<a href="#">Sand extraction operation, Lot 1 Thomas Road, Oakford, WA</a>	2017/8136	Not Controlled Action	Completed	In buffer area only
<a href="#">Stages 2-5 of primary school and assoc facilities development, Hammond Park, WA</a>	2015/7407	Not Controlled Action	Completed	In buffer area only
<a href="#">Subdivision, Lot 4 Anketell Road, Anketell, WA</a>	2018/8145	Not Controlled Action	Completed	In feature area
<a href="#">Urban development, Lot 109 Wattleup Road, Hammond Park, WA</a>	2015/7425	Not Controlled Action	Completed	In buffer area only
<a href="#">Urban development Lots 3, 1199 and 650 Thomas Road, Casuarina, WA</a>	2016/7659	Not Controlled Action	Completed	In buffer area only
<a href="#">Urban development of Lot 107 Wattleup Road, Hammond Park, WA</a>	2017/7890	Not Controlled Action	Completed	In buffer area only
<a href="#">Wandi South residential development Kenby Close &amp; Lyon Rd, Wandi, WA</a>	2014/7198	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
<a href="#">City of Cockburn Sporting Facilties</a>	2005/2139	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
<a href="#">INDIGO Marine Cable Route Survey (INDIGO)</a>	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
<a href="#">South West Metropolitan Railway Project</a>	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Referral decision				
<a href="#">Rezoning of Crown Reserve 39181 to facilitate future residential development</a>	2005/2096	Referral Decision	Completed	In buffer area only

Biologically Important Areas		[ Resource Information ]		
Scientific Name		Behaviour	Presence	Buffer Status
Seabirds				
<a href="#">Sterns dougallii</a>	Roseate Tern [817]	Foraging	Known to occur	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 is 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 on the contents of this report.

## 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 point locations and environmental data layers.

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 when time permits.

## 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 breeding sites; and
- 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 4**

### **Significant Flora Likelihood of Occurrence Assessment – Taxa Within 5 km**

**SIGNIFICANT FLORA LIKELIHOOD OF OCCURRENCE ASSESSMENT – TAXA WITHIN 5 KM**

TAXON	BC ACT / DBCA CONSERVATION CODE	SOURCE	NEAREST RECORD	HABITAT	COMMENT	LIKELIHOOD ASSESSMENT
<i>Caladenia huegeli</i>	Threatened	DBCA TPFL	1 km north	Grows in well-drained, deep sandy soils in low mixed woodlands of Coast Banksia ( <i>Banksia attenuata</i> ), Firewood Banksia ( <i>B. menziesii</i> ), Holly-leaved Banksia ( <i>Banksia ilicifolia</i> ), Western Sheoak ( <i>Allocasuarina fraseriana</i> ) and Jarrah ( <i>Eucalyptus marginata</i> ). The species tends to favour areas of lush undergrowth.	Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey. Assessed as unlikely to occur in the Strategen (2019) EAR.	<b>Unlikely</b>
<i>Diuris micrantha</i>	Threatened	DBCA TPFL & WA Herbarium	2 km south-west	Dark, grey to blackish, sandy clay-loam substrates in winter wet depressions or swamps. Bases of flowering plants are often covered with shallow water.	Lack of winter wet depression or swamp within Referral Area and no mapped geomorphic wetlands. Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey. Assessed as unlikely to occur in the Strategen (2019) EAR.	<b>Unlikely</b>
<i>Diuris purdiei</i>	Threatened	DBCA TPFL	4.3 km east	Restricted to the sandy, peaty soils on the margins of winter-wet swamps and depressions on the Swan Coastal Plain, primarily in the Canning Vale-Kwinana area between Cannington and Pinjarra. This includes seasonally damp, black sandy clay flats that support low open heath vegetation with species like <i>Melaleuca preissiana</i> and <i>Hypocalymma angustifolium</i> .	Lack of winter wet depression or swamp within Referral Area and no mapped geomorphic wetlands. Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey. Assessed as unlikely to occur in the Strategen (2019) EAR.	<b>Unlikely</b>
<i>Drakaea elastica</i>	Threatened	DBCA TPFL & WA Herbarium	400 m west	Species grows on low-lying areas of deep sand within otherwise dense vegetation in low-lying areas alongside winter-wet swamps, typically in Banksia or spearwood ( <i>Kunzea glabrescens</i> ) thicket vegetation. The species often occurs with other orchid species such as <i>Drakaea glyptodon</i> (king-in-his-carriage), <i>D. livila</i> (warty hammer orchid) and <i>Paracaleana nigrita</i> (flying duck orchid).	Lack of winter wet depression or swamp within Referral Area and no mapped geomorphic wetland. Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey. Assessed as unlikely to occur in the Strategen (2019) EAR.	<b>Unlikely</b>
<i>Thelymitra variegata</i>	Threatened	DBCA TPFL	4 km south	Species is restricted to sandy soils in woodlands, forests, and heath between Perth and Albany in Western Australia.	The Referral Area comprises potentially suitable soils; however, species not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey.	<b>Unlikely</b>
<i>Netrostylis sp. Chandala (G.J. Keighery 17055)</i>	Priority 2	DBCA TPFL & WA Herbarium	3.2 km south	Brown clay loam on slopes, open woodland and low scrub.	Lack of winter wet depression, swamp or creek within Referral Area and no mapped geomorphic wetlands. Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey.	<b>Unlikely</b>
<i>Cyathochæta teretifolia</i>	Priority 3	DBCA TPFL & WA Herbarium	260 m south	Grey sand, sandy clay. Swamps, creek edges.	Lack of winter wet depression, swamp or creek within Referral Area and no mapped geomorphic wetlands. Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey. Assessed as unlikely to occur in the Strategen (2019) EAR.	<b>Unlikely</b>
<i>Amanita preissii</i>	Priority 3	WA Herbarium	1.8 km north-east	Known to occur in various woodlands and soil types throughout the southwest of Western Australia. Its habitat is typically associated with marri, Eucalyptus, and Banksia woodlands, as well as the sandy soils in which these trees grow.	Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey. Assessed as unlikely to occur in the Strategen (2019) EAR.	<b>Unlikely</b>
<i>Jacksonia gracillima</i>	Priority 3	WA Herbarium	3.4 km south	Prefers shrublands in sandy, peaty soil located on the Swan Coastal Plain in southern Western Australia, specifically between Perth and Busselton. It is often found in low-lying wetter areas or clay pan wetlands within this region.	Lack of winter wet depression, swamp or creek within Referral Area and no mapped geomorphic wetlands. Soil mapping does not show areas of similar soil type. Recorded in the Bennett Environmental (2010) survey. Not recorded in the Strategen 2018 survey.	<b>Unlikely</b>
<i>Stylidium paludicola</i>	Priority 3	WA Herbarium	1.6 km east	Peaty sand over clay, Marri and Melaleuca woodland. Winter wet habitats.	Lack of winter wet depression, swamp or creek within Referral Area and no mapped geomorphic wetlands. Soil mapping does not show areas of similar soil type. Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey.	<b>Unlikely</b>
<i>Aponogeton hexatepalus</i>	Priority 4	DBCA TPFL	3 km south-west	Prefers temporary freshwater swamps and claypans in the seasonally wet areas between Perth and Busselton, Western Australia. It is a perennial aquatic herb that roots in mud and has floating leaf blades.	Aquatic species requiring temporary freshwater swamp/claypan and Referral Area lacks a winter wet depression, swamp or creek. Also, no mapped geomorphic wetlands. Not recorded in the Bennett Environmental (2010) survey or Strategen 2018 survey.	<b>Unlikely</b>

**SIGNIFICANT FLORA LIKELIHOOD OF OCCURRENCE ASSESSMENT – TAXA WITHIN 5 KM**

TAXON	BC ACT / DBCA CONSERVATION CODE	SOURCE	NEAREST RECORD	HABITAT	COMMENT	LIKELIHOOD ASSESSMENT
<i>Dodonaea hackettiana</i>	Priority 4	DBCA TPFL	1.5 km west	Prefers limestone soil in open forests along the Swan Coastal Plain in coastal southwestern Western Australia.	No plants found during Spring 2009 surveys by Bennett Environmental (2010) or Strategen surveys in 2018.	Unlikely
<i>Stylium ireneae</i>	Priority 4	WA Herbarium	4.4 km south-west	Prefers sandy soils in open woodland, typically found in valleys near creek lines in its native Western Australia. It is often associated with Agonis plants in these habitats.	No plants found during Spring 2009 surveys by Bennett Environmental (2010) or Strategen surveys in 2018.	Unlikely

## **APPENDIX 5**

### **Site Inspection Report**

## **FILE NOTE**

**Project:** Site Inspection for Native Vegetation Clearing Referral/Permit, Lot 40 Treeby Rd, Anketell

**Recorded by:** M Edgley

**Project No:** JAR\_PP04046\_001

**Inspection date:** 17/11/2025

Telephone Notes

Minutes of Meeting

File Note

Field Record

A site inspection of Lot 40 Treeby Rd, Anketell was undertaken by Marie Edgley from Aurora Environmental on Monday 17 November 2025 to assess environmental values within an area proposed for clearing. The assessment occurred over a 0.42 ha survey area, with 0.38 ha of the area mapped as native vegetation (**Attachment 1**).

### **Background**

Previous environmental assessments of the survey area occurred in Spring 2009 by Bennett Environmental<sup>1</sup>, and Spring 2019 by Strategen<sup>2</sup> as part of a Local Structure Plan for the surrounding area<sup>3</sup>. Strategen conducted a reconnaissance flora and vegetation survey in 2018 with a focus on Lots 36 and 40 Treeby Road to supplement the survey completed in 2009.

The objective of the site assessment was to validate the findings of the Strategen (2020) assessment, including assessments of:

- vegetation type and condition;
- native vegetation extent;
- extent and type of fauna habitat (including hollow bearing trees);
- an unconfirmed occurrence of the Banksia Woodland of the Swan Coastal Plain to confirm presence/absence and extent (if present) using 'Banksia Woodlands of the Swan Coastal Plain ecological community: Diagnostic characteristics, condition thresholds and minimum patch size';
- presence of WONS & DPs; and
- whether further biological surveys will be required.

### **Vegetation Type and Condition**

A review of the previous environmental assessments found that the survey area consists of vegetation described as 'degraded' for vegetation type and 'completely degraded' for vegetation condition for part of the survey area. The remaining part of the survey area at Lot 40 Treeby Road

<sup>1</sup> Taylor Burrell Barnett (2020). Anketell North Structure Plan, Appendix A, pp. 125-192.

<sup>2</sup> Taylor Burrell Barnett (2020). Anketell North Structure Plan, Appendix A, pp. 52-125.

<sup>3</sup> Taylor Burrell Barnett (2020). Anketell North Structure Plan.

was described as 'unsurveyed' for both vegetation type and condition which was later described in the 2019 assessment as:

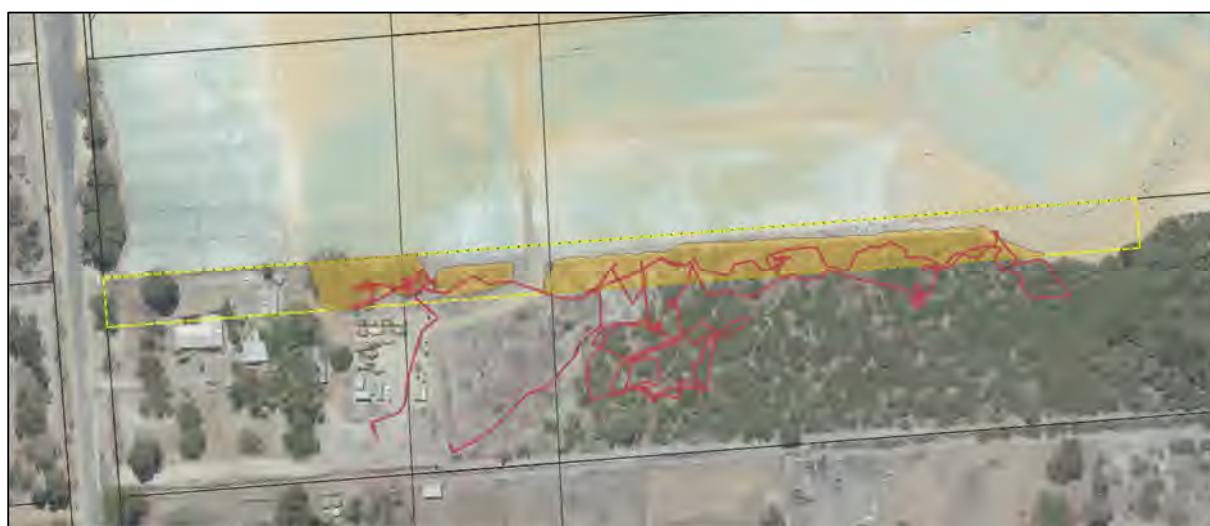
- EmKg - Scattered *Eucalyptus marginata* over low open woodland of *Banksia attenuata* and *Banksia menziesii* over shrubland of *Kunzea glabrescens* and *Xanthorrhoea preissii* over mixed weeds on sandy soils;
- Eg - Scattered trees of *Eucalyptus gomphocephala* and *Agonis flexuosa* over a weedy grassland on sandy soils; and
- Planted garden.

Vegetation condition across the survey area was described as completely degraded, with a small area of vegetation type EmKg towards the eastern end of the survey area described as good condition.

The vegetation assessment undertaken by Aurora Environmental found that areas described as EMKg in good condition did not occur within the survey area. No *Eucalyptus marginata* was observed during the site assessment and the survey area is consistent with vegetation types of Eg and planted garden in good to completely degraded condition.

### Native Vegetation Extent

A desktop review of aerial photographs indicated that the survey area has been subject to clearing as part of the adjacent development, which was confirmed during the site assessment (Figure 1). Site assessment also confirmed that the extent of native vegetation has been accurately mapped as shown in (Attachment 1).



**Figure 1: Survey area showing site inspection track log (17/11/2025).**

### Extent and Type of Fauna Habitat

The previous environmental assessment by Strategen identified black cockatoo foraging habitat within the survey area. Foraging habitat within the survey area was described in 2019 as 'Banksia woodland with scattered Eucalyptus' and 'isolated foraging trees of *Banksia menziesii*'. An Aurora

Environmental site assessment conducted on 17/11/2025 confirmed the presence of black cockatoo habitat as described by Strategen, however the area of foraging habitat has been reduced because of the recent development activities, including the installation of access tracks through the survey area. Care was taken to assess the site for evidence of feeding (chewed cones, seed and nut material) and opportunistic observations of Black Cockatoos. During the site assessment, no Black Cockatoos were observed or heard calling, and no evidence of feeding was observed.

During the site assessment, any trees meeting all the below criteria were considered potential black cockatoo breeding habitat:

- native trees (e.g. Jarrah, Tuart, Marri) or other suitable species capable of forming hollows; and
- diameter at breast height (DBH) > 500 mm; and
- hollows with vertical or near vertical opening > 120 mm diameter.

No trees were recorded in the survey area that met all the above criteria for Black Cockatoo breeding habitat. However, six native trees were recorded with a DBH > 500 mm. Of these six trees, four were Tuart (*Eucalyptus gomphocephala*) (two dead) and two were planted eucalyptus trees not endemic to WA. One of the six trees was observed to contain a hollow with estimated opening diameter of less than 120 mm; therefore, not considered suitable for breeding use by Black Cockatoos. No evidence of breeding was recorded at the site.

### **Banksia Woodlands of the Swan Coastal Plain**

The following environmental constraint for the survey area was identified in 2019 by Strategen:

- Matters of National Environmental Significance (MNES) - 9.6 ha of Banksia Woodlands of the Swan Coastal Plain (SCP) Threatened Ecological Community (TEC).

The MNES was confirmed and mapped during a reconnaissance survey of Lot 40 Treeby Road to supplement the findings of the previous 2009 Bennett Environmental survey. The survey recorded vegetation at Lot 40 that was consistent with the TEC and Strategen concluded:

'The development of the site will result in the clearance of Banksia TEC, potentially at thresholds requiring referral...for significant impacts. All considerations for referrals for potential significant impacts to TECs, will be conducted at the development stage by the landholder in response to site conditions<sup>4</sup>.'

The site assessment conducted on 17 November 2025 by Aurora Environmental observed the vegetation type Eg - Scattered trees of *Eucalyptus gomphocephala* and *Agonis flexuosa* over a weedy grassland on sandy soils within the survey area. See **Attachment 2** for photographs showing typical native vegetation within the survey area. Only one occurrence of *Banksia menziesii* was observed within the survey area within an area of vegetation condition observed as completely degraded (Plate 1).

During the site assessment it was confirmed that the survey area is contiguous with a larger patch of remnant native vegetation that is consistent with the Banksia Woodlands of the Swan Coastal Plain Ecological Community, meeting the diagnostic criteria, condition threshold and minimum patch size

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<sup>4</sup> Taylor Burrell Barnett (2020). Anketell North Structure Plan, Appendix A, pp. 97.

for the TEC. This occurrence does not extend into the survey area and is unlikely to be impacted by the proposed clearing.

**Plate 1: Single *Banksia menziesii* occurrence recorded during November 2025 site assessment**



#### **Presence of WONS and DPs**

No Weeds of National Significance or Declared Pests (BAM Act, 2007) were observed during the site assessment.

#### **Recommendations for further Biological surveys**

No recommendations for further biological surveys.

Marie Edgley

Ecologist/Conservation Biologist  
EIA and Ecology Team  
**Aurora Environmental**

21 November 2025

**ATTACHMENTS**

1. Survey Area
2. Photographs of Vegetation within the Survey Area

# **ATTACHMENT 1**

## **Survey Area**



## ATTACHMENT 2

### Photographs of Vegetation Within Survey Area



