



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10028/1
Permit Holder:	Shire of Northampton
Duration of Permit:	From 4 December 2024 to 4 December 2029

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of a gravel road construction and a carpark.

2. Land on which clearing is to be done

Lot 509 on Deposited Plan 426117, Sandy Gully
Lot 508 on Deposited Plan 426117, Sandy Gully
Lot 502 on Deposited Plan 65746, Sandy Gully
Lot 507 on Deposited Plan 426117, Sandy Gully
Lot 505 on Deposited Plan 426117, Sandy Gully
Little Bay Road Reserve (PIN 11225493)

3. Clearing authorised

The permit holder must not clear more than 0.345 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- avoid the clearing of *native vegetation*;
- minimise the amount of *native vegetation* to be cleared; and
- reduce the impact of clearing on any environmental value.

5. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

6. Directional clearing

The permit holder shall conduct clearing in a slow progressive manner from one direction to the other (west to east) to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

7. Land degradation – erosion management

The permit holder shall not clear native vegetation under condition 3 on this permit unless the construction of the gravel road begins within one (1) month of the clearing being undertaken.

PART III - RECORD KEEPING AND REPORTING

8. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> (a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) direction of the clearing; (e) the size of the area cleared (in hectares); (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; (g) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 5; (h) actions taken in accordance with condition 6; and

No.	Relevant matter	Specifications
		(i) actions taken in accordance with condition 7.

9. Reporting

The permit holder must provide to the *CEO* the records required under condition 8 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



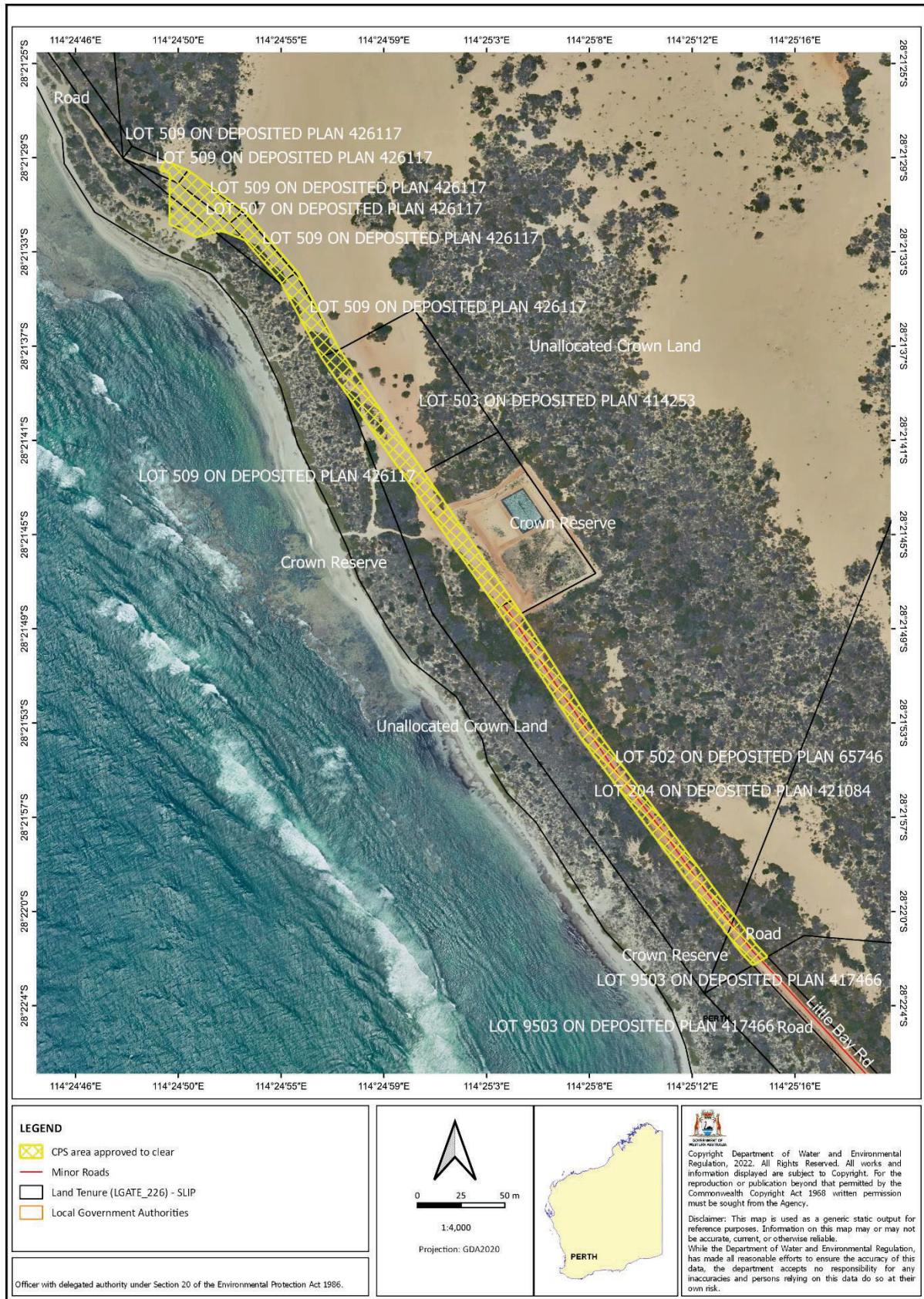
 Jessica Burton
 A/MANAGER
 NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
 of the Environmental Protection Act 1986*

11 November 2024

Schedule 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).



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Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10028/1
Permit type:	Purpose permit
Applicant name:	Shire of Northampton
Application received:	22 December 2022
Application area:	0.345 hectares of native vegetation (revised)
Purpose of clearing:	Gravel road construction and carpark
Method of clearing:	Mechanical
Property:	Lot 509 On Deposited Plan 426117 Lot 508 On Deposited Plan 426117 Lot 502 On Deposited Plan 65746 Lot 507 On Deposited Plan 426117 Lot 505 on Deposited Plan 426117, Sandy Gully Little Bay Road Reserve (PIN 11225493)
Location (LGA area/s):	Shire of Northampton
Localities (suburb/s):	Sandy Gully

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area and consists of coastal shrubs (see Figure 1, Section 1.5). The application is to clear 0.345 hectares of native vegetation to construct a gravel road allowing access to a beach parking lot and turnaround. One shrub is required to be removed to construct the carpark within Lot 507 On Deposited Plan 426117 (Shire of Northampton, 2023).

During the assessment, the applicant revised the application area twice. The original application was to clear 2.68 hectares within a 3.59-hectare footprint to provide legal access, via a four-wheel drive track to Little Bay. Later, the applicant revised the application area to 2.07 hectares incorporating the northern portion of the application area and then finally to a reduced area of clearing of 0.345 hectares.

1.3. Decision on application

Decision:	Granted
Decision date:	11 November 2024
Decision area:	0.345 hectares of native vegetation within a footprint of 2.914 hectares, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (the department) advertised the application for 21 days and one submission was received. Following the revision to the application area and the purpose of the clearing, the application area was re-advertised for seven days and no submissions were received. Consideration of matters raised in the public submission is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G.1), the findings of a flora and vegetation survey (Natural Area, 2022), details of an Environmental Management Plan (EMP) (Natural Area, 2024) (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the effort afforded by the Shire of Northampton (the Shire) to reduce the clearing footprint extensively.

The assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- the potential mortality of fauna utilising the application area at the time of the clearing; and
- potential land degradation in the form of wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation or have long-term adverse impacts and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback;
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- undertake the construction of the gravel road no later than one month after undertaking the authorised clearing activities to reduce the potential of wind erosion.

1.5. Site map

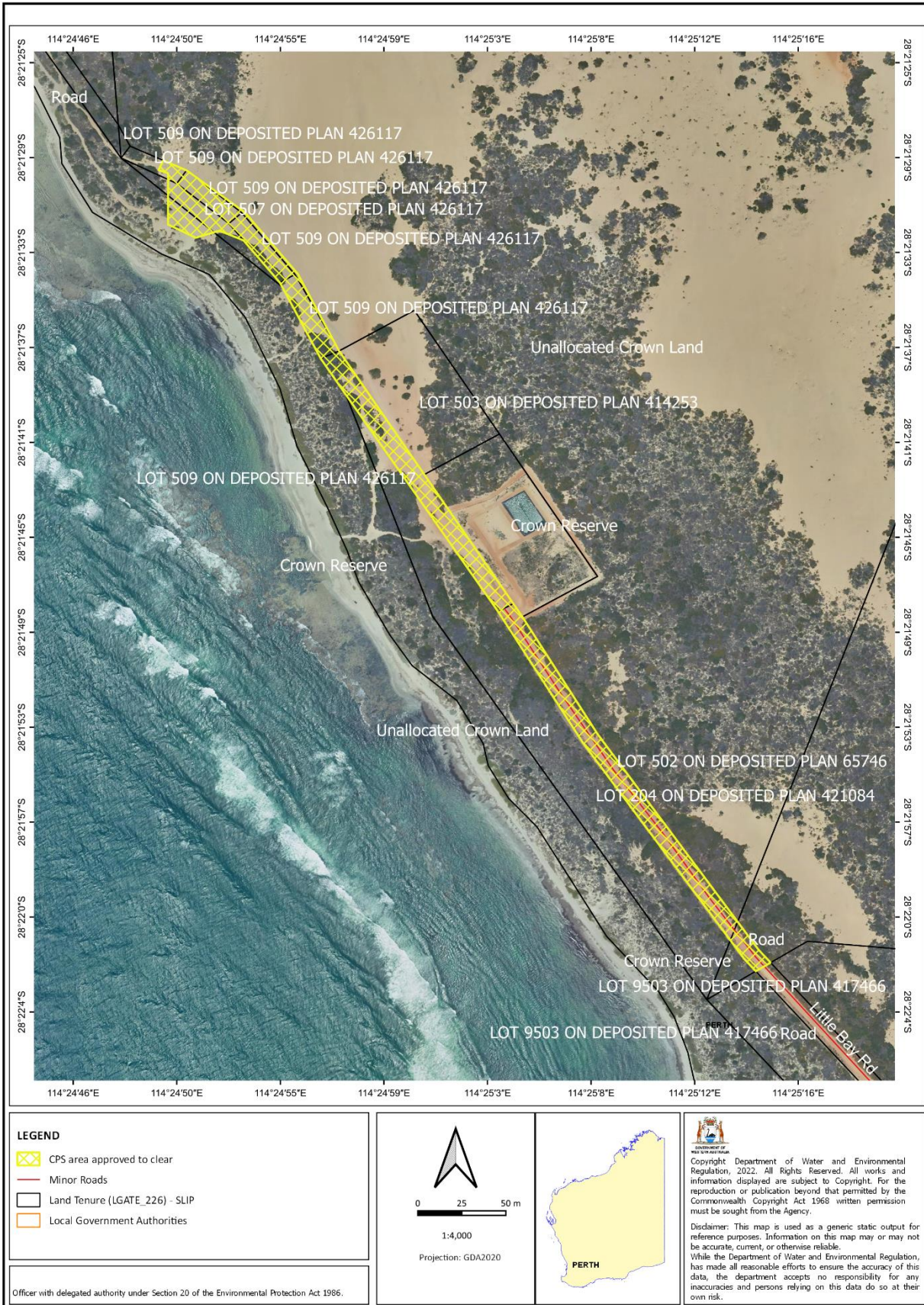


Figure 1 Map of the application area

The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Soil and Land Conservation Act 1945* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

During the assessment of the application, the applicant advised that they have removed the northern portion of the road reserve from the clearing area. By changing the purpose of the development project “to provide all-wheel-drive access to the beach”, and by focusing on the southern section only, the area of native vegetation required to be removed, as well as the level of potential environmental impact, has been reduced significantly. The initial application area received for this clearing permit application was to clear 2.68 hectares of native vegetation within a 3.59-hectare footprint (Shire of Northampton, 2023). In May 2024, the application area was revised to 0.345 hectares for the purpose of construction of a gravel road with a carpark.

The applicant has commissioned Natural Area Holdings Pty Ltd (Natural Area) to prepare an Environmental Management Plan (EMP) with the objection to protect the native flora and adjacent vegetation (Natural Area, 2024). The management targets of this EMP are:

- Vegetation clearing only occurs within the disturbance footprint as shown in the approved clearing permit by demarcating the area to be cleared;
- Old access tracks and laydown area will be rehabilitated;
- Adjacent native vegetation to be protected;
- Recommendation implemented for heritage protection;
- Management actions undertake to minimise dust during the construction;
- Management actions implemented to minimise risks associated with unauthorised vehicle access, water repellence, pollution and dieback transfer;
- Management measures implemented to reduce the risk of fuel spills;
- Hygiene protocols undertaken to limit the potential for the introduction of *Phytophthora* spp. dieback and other pathogens;
- No clearing of vegetation in areas where the risk of erosion and sedimentation cannot be effectively managed through control measures;
- Installation of erosion control measures if the risk of erosion is identified as being able to be effectively managed through control measures;
- Management actions undertaken to minimise the spread of weeds within the site;
- Reduce the risk of spread of *Tamarix aphylla* (Athel Tree); and
- Management actions undertaken to reduce the risk of disturbance to fauna and fauna habitat, including beach-nesting birds and their nests.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix D) identified that the impacts of the proposed clearing present a risk to biological values (fauna, adjacent vegetation) and land resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (Fauna) - Clearing Principles (a) and (b)

Assessment

According to available databases, 30 conservation significant fauna species have been recorded in the local area, of which 27 are bird species, two are mammal species and one is an invertebrate species. During the desktop assessment, distance to nearest record, total number of records within the local area, and habitat suitability were considered. Numerous shorebird species (19 in total) protected under international Agreements were previously recorded with the local area. Migratory birds are known to arrive in Australia during the summer months and depart during the winter months to breed in northern latitudes. Based on the likelihood analysis, four fauna species are likely to occur within the application area. There are:

- *Apus pacificus* (fork-tailed swift)
- *Calidris alba* (sanderling)
- *Notamacropus eugenii derbianus* (tammar wallaby)
- *Pandion haliaetus* (osprey)

Of these four species, *Apus pacificus* and *Calidris alba* do not breed within Australia and therefore the habitat of the application area is not likely to be critical for these species' survival.

The tammar wallaby is usually associated with coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland; inhabits dense, low vegetation for shelter, utilises open grassy areas for grazing (DEC, 2012). The closest tammar wallaby record is 12 kilometres from the application area. Based on this species habitat preference, the vegetation proposed to be cleared is likely to provide suitable habitat. However, given the small area of clearing proposed, in a linear nature, it is not likely this species would be significantly impacted by the clearing. Given the tammar wallaby may be a transient visitor to the application area and may be present during the time of the proposed clearing, it is important that the clearing is undertaken in a directional manner towards intact native vegetation.

The osprey is usually associated with coastal habitat and terrestrial wetlands, mostly in coastal areas but occasionally travel inland along major rivers; require extent areas of open water for foraging on fish, occasionally also molluscs, crustaceans, insects, reptiles, birds and small mammals (DCCEEW, n.d). Given this species is an avian species, intact remnant vegetation is still available within the surrounding area, the lack of suitable nesting habitat and noting the small area of the proposed clearing, it is unlikely that the proposed clearing would have a significant impact on habitat for the osprey.

It is noted by the department that within the applicant's EMP, under section 4.6, it lists fauna management measures. If nests are located during the clearing and construction phase, the applicant will seek advice from an environmental specialist to ensure bird nests are not disturbed (Natural Area, 2024).

Conclusion

Based on the above assessment, the proposed clearing is unlikely to have a significant impact on conservation significant fauna species identified from the local area.

Conditions

To address potential impacts to fauna individuals that may be present during clearing activities, the following management measures will be required as conditions on the clearing permit:

- Slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise impact to individuals.

3.2.2. Biological values (Flora) - Clearing Principles (a) and (c).

Assessment

The majority of the application footprint is devoid of native vegetation with small areas consisting of a mixed coastal shrubland vegetation type with the most common flora families being Poaceae, Asteraceae and Chenopodiaceae (Natural Area, 2022). The condition of the vegetation ranges from good (Keighery, 1994) to completely degraded (Keighery, 1994) (Natural Area, 2022).

According to available databases, 41 conservation significant flora species are known to occur within the local area (20-kilometre radius from the application area). Of these, seven species are threatened flora species, 11 are priority 1 (P1), six are P2, 12 are P3 and five are P4. The desktop assessment identified two species as likely to occur within the application area given the soil type, vegetation type, suitability of habitat and distance to the nearest record. These include *Melaleuca huttensis* (P3) where the nearest mapped record is 662 metres from the application area and *Caladenia bryceana* subsp. *cracens* (T) (See Appendix C.3 for the likelihood analysis).

A detailed flora and vegetation survey was conducted by Natural Area on the 6th and 8th of September 2022. The survey was conducted on the larger footprint of 4.66 hectares which covered 2.28 kilometres (Natural Area, 2022). The survey was conducted in optimal timing for the region and optimal flowering time for the two identified species listed above. The survey identified 70 flora species including 43 native species and 27 weed species. No species were identified as threatened or conservation significant (Natural Area, 2022).

While two species were identified as likely to occur, given the absence of suitable vegetation types associated with these species, the low number of records within the local area and no species of conservation significance were identified during the survey, it is unlikely for *Melaleuca huttensis* or *Caladenia bryceana* subsp. *cracens*, to occur within the application area.

The survey did, however, identify a number of weeds species, and within the quadrat sample associated with the revised application area, six weed species were identified. Also, directly north of the laydown area, two individuals of *Tamarix aphylla* (athel pine) were identified; this species is a Weed of National Significance (Natural Area, 2022). It is the landowner and/or occupiers' responsibility to adhere to the requirements under the *Biosecurity and Agriculture Management Act 2007* and its subsidiary legislation (DPIRD, 2019).

Conclusion

Based on the above assessment, the proposed clearing is unlikely to impact conservation significant flora. Given the associated clearing works involves the movement of machinery and vehicle to and from the site, there is a risk for the spread of weeds and dieback to occur.

Conditions

To mitigate the impacts of the spread of weeds and dieback, a weed and a dieback control condition is implemented on the permit.

3.2.3. Land resources - Clearing Principles (g)

Assessment

The mapped soils within the application area are highly susceptible to land degradation resulting from wind and water erosion. Noting the coastal dune system present and the land degradation risk aligned to this type of soil, it is considered that the proposed clearing may lead to erosion. However, wind erosion is not expected to be significant given the application area is bordered by remnant vegetation and the small, linear scale of the proposed clearing.

Given the extent and the location of the proposed clearing in the context of the site and local area, and the condition of the vegetation (Keighery, 1994), the proposed clearing is considered unlikely to cause appreciable land degradation. The proposed clearing may cause degradation of adjacent and nearby remnant native vegetation by facilitating the exacerbation of dune instability through wind and water erosion. However it is considered that any impact can be mitigated through the applicant's implementation of their Environmental Management Plan (EMP) (Natural Area, 2024).

Conclusion

Based on the above assessment, the proposed clearing is unlikely to result in significant land degradation. For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- The construction works must commence within one month of undertaking the approved clearing activities to reduce the time the cleared area is exposed to soil erosion.

3.3. Relevant planning instruments and other matters

The clearing application is for the purpose of providing an all-wheel-drive access to the beach Little Bay, including a carpark where all vehicles (including caravans/trailers) can either park or turn around. The current beach access is 4WD only and therefore requires upgrading to allow all wheel drive vehicles to access.

No planning or development approvals are required for the purpose of the proposed clearing.

An Aboriginal site of significance has been mapped within the application area (Site #:17164). An Aboriginal Heritage survey was undertaken within the project area in June 2022. The outcome of this survey found that the proposed works will not impact the known heritage values of the site. However, there was a possibility that unknown heritage items could be identified during ground disturbance works. Recommendations were made in the report which the applicant advised, will be undertaken in consultation with the Southern Yamatji representatives.

It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Flora and vegetation survey (Natural Area, 2022).	<p>The Shire has commissioned Natural Area to undertake a flora and vegetation survey. The survey was conducted between 6 and 8 of September 2022. Activities undertaken by Natural Area included:</p> <ul style="list-style-type: none"> desktop assessment activities to determine flora species, declared rare and priority listed species and ecological communities with the potential to be present within the survey area. detailed flora survey that includes the installation of quadrats based on the number of vegetation type present. Flora survey activities was carried out in accordance with <i>EPA Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment</i> (2016). reporting outcomes of the assessment activities.
Environmental Management Plan (Natural Area, 2024)	<p>Natural Area has been contracted by the Shire to undertake the preparation of an EMP for clearing and construction works being undertaken by the Shire at the Little Bay Road. This plan was developed to provide management strategies to known environmental risks at the site. This EMP is designed to be used both during construction and for the ongoing environmental management of the site.</p>
Little Bay Road Heritage Survey Report (Sticks and Stones, 2022)	<p>The Shire commissioned Sticks and Stones Cultural Resources Management (SandS CRM) under its Yamatji Proponent Standard Heritage Agreement (YPSHA) with the Yamatji Southern Regional Corporation (YSRC) to undertake a Site Identification Survey for the Shire proposed Little Bay Road construction.</p> <p>It is noted that Traditional Owners from the Yamatji Nation ILUA (YSRC representatives) participated in all aspects of the fieldwork.</p>

Appendix B. Details of public submissions

Summary of comments	Consideration of comment
Weed contamination and the protection of habitat for beach-nesting birds.	<p>The department has implemented a weed management condition on the clearing permit.</p> <p>As discussed under section 3.1, the area of the proposed clearing was extensively reduced. Based on the finding of the assessment, it is unlikely that the small area of clearing in a linear nature would result in a significant impact to the beach nesting birds. A directional clearing condition is also implemented on the clearing permit to mitigate any mortality to fauna utilising the application area at the time of the clearing. An EMP is also prepared, which include fauna management to ensure that fauna is not impacted from the proposed clearing.</p>

Appendix C. Site characteristics

C.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to the department at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix D.

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is surrounded by coastal vegetation and sand dunes and is adjacent to a recreation, camping and foreshore protection reserve.</p> <p>Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 26 per cent of the original native vegetation cover.</p>
Ecological linkage	There are no mapped ecological linkages throughout the application area.
Conservation areas	There are no mapped conservation areas throughout the application area or within the close proximity of the application area.
Vegetation description	<p>The flora and vegetation survey (Natural Area, 2022) identified the mixed coastal shrubland within the proposed clearing area to be dominated by <i>Scaevola crassifolia</i>, <i>Acacia rostellifera</i>, and <i>Olearia axillaris</i> over an understory of <i>Tetragonia implexicoma</i>, <i>Carpobrotus virescens</i> as well as other native herbs and grasses.</p> <p>The application area falls outside of the mapped vegetation. The survey data is consistent with the closest mapped vegetation type:</p> <ul style="list-style-type: none"> Pre-European Vegetation statistics (vegetation association 359), which is described as Wattle, Teatree, Acacia spp. and Melaleuca spp. <p>The closest mapped vegetation type retains approximately 94.16 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>The vegetation survey (Natural Area, 2022) indicates the vegetation within the proposed clearing area is in completely degraded to good (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix E.</p> <p>Representative photos are available in Appendix F.</p>
Climate	The Mid-West Gascoyne region of Western Australia has a semi-arid to arid climate with hot summers and mild winters. The average rainfall of the Gascoyne is between 190 mm to 250 mm.
Soil description	The soil is mapped as Quindalup North 1 subsystem (231Qu_1), described as a coastal dune system, with no fixed drainage (DPIRD, 2019).
Land degradation risk	The mapped soil over the application area is highly susceptible to wind erosion, water erosion, water repellence, and phosphorus export (DPIRD, 2019).
Waterbodies	<p>The application area is mapped over the Kalbarri Sandplain hydrological zone of Western Australia, described as:</p> <ul style="list-style-type: none"> Undulating sandplain on Silurian & Devonian sediments of the Gascoyne Sub-Basin, some Cretaceous sediments. Moderately dissected in places with laterite remnants. Undulating sandplain & dunes on limestone (calcarenite) near the coast. <p>The desktop assessment and aerial imagery indicated that no natural or permanent watercourses intersect the application area.</p>

Characteristic	Details
Hydrogeography	The application area falls within the Gascoyne Groundwater Area as proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act). The application area is not subject to an area protected under the <i>Country Water Supply Act 1917</i> or Public Drinking water source area. The groundwater salinity level (Total Dissolved Solids) is mapped as 1000-3000 milligrams per litre.
Flora	The desktop assessment identified 41 conservation significant flora taxa within the local area, which comprised of seven threatened flora and 34 priority flora taxa. The nearest record are two priority three species located less than one kilometre from the application area.
Ecological communities	The application area is absent of Threatened and Priority Ecological Communities. The closest mapped conservation significant ecological community is the Subtropical and Temperate Coastal Saltmarsh TEC located 5.8 kilometres from the application area.
Fauna	The desktop assessment identified 30 conservation significant fauna within the local area, of which 27 are bird species, two are mammal species and one is an invertebrate species. The closest recorded species is the <i>Apus pacificus</i> (fork-tailed swift), recorded 0.9 km from the application area. The most recorded fauna species from the local area are the <i>Actitis hypoleucos</i> (common sandpiper) and <i>Tringa nebularia</i> (common greenshank).

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Geraldton Sandplains	3,136,037.83	1,404,424.32	44.78	568,255.10	18.12
Local area					
20km radius	62,2807.68	16,278.93	25.92	-	-

**Government of Western Australia (2019)

C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Caladenia bryceana subsp. cracens</i>	T	Y	Y	Y	3.42	2	Y
<i>Melaleuca huttensis</i>	P3	Y	Y	Y	1.40	7	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

C.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)
<i>Apus pacificus</i> (fork-tailed swift)	MI	Y	2.19	3
<i>Calidris alba</i> (sanderling)	MI	Y	1.86	1
<i>Notamacropus eugenii derbianus</i> (tamar wallaby)	P4	Y	12.18	1
<i>Pandion cristatus</i>	MI	Y	1.86	15

C.5. Land degradation risk table

Risk categories	231Qu_1
Wind erosion	H1: 50-70% of the map unit has a high to extreme wind erosion risk
Water erosion	M2: 30-50% of map unit has a high to extreme water erosion risk
Water repellence	H2: >70% of the map unit has a high repellence risk
Phosphorus export risk	H1: 50-70% of map unit has a high to extreme phosphorus export risk

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared may contain habitat for conservation significant fauna species. A survey over the application area did not find any conservation significant flora species (Natural Area, 2022). The application area is not part of a mapped Priority Ecological Community (PEC) nor is the vegetation identified within the application area representative of a PEC.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (b):</u> “Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</p> <p><u>Assessment:</u></p> <p>The application area is likely to provide habitat for four conservation significant fauna species. However, given the nature of the proposed clearing and the condition of the native vegetation with vegetation remaining in the surrounding area, it is unlikely that conservation significant fauna species will be impacted from the proposed clearing.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not consist of flora species listed under the BC Act.</p>	<p>Not likely to be at variance</p>	<p>Yes</p> <p><i>Refer to Section 3.2.2, above.</i></p>
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that can indicate a threatened ecological community. The Shrublands of Northampton Area – Dominated by Melaleuca species over Exposed Kockatea is the closest mapped threatened ecological community, located approximately 11 km from the application area.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p>Environmental value: significant remnant vegetation and conservation areas</p>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The National Objectives and Targets for Biodiversity Conservation 2001-2005 include a target to have clearing controls in place that prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (i.e., pre-European settlement) (Commonwealth of Australia, 2001). This is the threshold level below which species loss appears to accelerate exponentially.</p> <p>The local area (20-kilometre radius from the centre of the application area) has been extensively cleared (26 per cent native vegetation remaining). However, the application area was not identified to provide any significant environmental values and is not considered significant as remnant vegetation within the local area.</p> <p>The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p>Environmental value: land and water resources</p>		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	<p>Not likely to be at variance</p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (g):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</p> <p><u>Assessment:</u></p> <p>The mapped soils are highly susceptible to wind erosion, water erosion, water repellence, and nutrient export. Noting the extent and location of the application area, the proposed clearing is likely to have an appreciable impact on land degradation.</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<p><u>Principle (i):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</p> <p><u>Assessment:</u></p> <p>Given no water courses, wetlands, or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or groundwater quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

Appendix E. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation’s ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.

Condition	Description
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Biological survey information excerpts and photographs of the vegetation (Natural Area, 2022)



Figure 2: An image representing the area of the actual clearing (green) in comparison the application area footprint (yellow)



Figure 3: Native flora species recorded from the survey area.



Cape Weed (**Arctotheca calendula*)



Iceplant (**Mesembryanthemum crystallinum*)



False Sowthistle (**Reichardia tingitana*)



Fountain Grass (**Cenchrus setaceus*)


Figure 4: Photographs of introduced flora species recorded from the survey area.

Table 1: Condition of the vegetation recorded from the survey area.

Vegetation Condition	Pristine	Excellent	Very Good	Good	Degraded	Completely Degraded	Total
Area (ha)	0	0	0.96	1.35	0.055	1.3	3.66
Area (%)	0	0	26.2	36.8	1.5	35.5	100



Figure 5: A map representing the location of the weed of national environmental significance identified close to the application area.

Quadrat No.:	Q4	
Survey Date:	07/08/2022	
Personnel:	KS, KG	
Latitude:	-28.362444	
Longitude:	114.416991	
Topography:	Mid Slope	
Aspect:	West	
Slope:	1-3%	
Soil:	Orange Sand	
Gravel:	0%	
Rock:	0%	
Leaf Litter:	0%	
Bare Ground:	10%	
Drainage:	Well	
Condition:	Degraded	

Notes: Mixed Coastal Shrubland

Species	Height (m)	Cover (%)
<i>*Arctotheca calendula</i>	0.2	2
<i>*Brassica tournefortii</i>	0.2	0.1
<i>*Chenopodium murale</i>	0.5	0.5
<i>*Crassula alata</i>	0.1	0.2
<i>*Cynodon dactylon</i>	0.2	1
<i>*Ehrharta longiflora</i>	0.5	30
<i>*Limonium sinuatum</i>	0.3	0.1
<i>*Lysimachia arvensis</i>	0.2	0.2
<i>*Mesembryanthemum crystallinum</i>	0.3	20
<i>*Reichardia tingitana</i>	0.2	1
<i>*Sonchus asper</i>	0.2	0.5
<i>Acacia rostellifera</i>	1	20
<i>Atriplex sp.</i>	0.1	0.1
<i>Carpobrotus virescens</i>	0.2	15
<i>Olearia axillaris</i>	0.1	0.5
<i>Rhagodia baccata</i>	0.5	2
<i>Salsola australis</i>	0.3	0.5

Species	Height (m)	Cover (%)
<i>Solanum symonii</i>	1	3
<i>Sporobolus virginicus</i>	0.1	0.2
<i>Threlkeldia diffusa</i>	0.2	5

Figure 6: Results from Quadrat four that falls within the application area.

Appendix G. Sources of information

G.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

G.2. References

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