



Clearing Permit Decision Report

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1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9362/1
Permit type:	Area permit
Applicant name:	City of Bunbury
Application received:	23 July 2021
Application area:	0.099 hectare of native vegetation
Purpose of clearing:	Recreation
Method of clearing:	Mechanical
Property:	Lot 681 on Deposited Plan 188395 and Unidentified Water Reserve (PIN 1248453)
Location (LGA area/s):	City of Bunbury
Localities (suburb/s):	Bunbury

1.2. Description of clearing activities

The application is to clear 0.099 hectares of coastal vegetation on the edge of an approximately 125 metre strip of beach on the Leschenault Inlet foreshore of Luciana Park. Removal of shrubs and sedges from the area is required to expand the beach area along the strip as a part of the development of the Bunbury Youth Precinct.

1.3. Decision on application

Decision:	Granted
Decision date:	8 November 2021
Decision area:	0.099 hectares of native vegetation 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 (DWER) advertised the application for 14 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), information provided by the applicant, the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). In particular, the Delegated Officer has considered the following:

- The soils in the application area comprise of sands and fine silt accumulating in the estuary which are prone to wind erosion. Given the limited amount of clearing and its location behind a sand dune, it is considered unlikely that the proposed clearing would lead to appreciable land degradation. Undertaking construction activities within two months of clearing will mitigate any risk or land degradation.

- The vegetation within the application area is in Degraded condition comprising mostly of non-native weeds species. Clearing in the area can spread weeds and dieback onto adjacent vegetation. Weed and dieback management measures will mitigate this risk.

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 and / or impact adjacent vegetation. The potential impacts can be minimised and managed by imposing management conditions to the permit.

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
- construction to commence within two months of clearing

1.5. Site map



Figure 1 Map of the application area

The area crosshatched yellow indicates the area 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Soil and Land Conservation Act 1945* (WA)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

In the application, the applicant has stated and demonstrated their efforts and commitments to avoid, minimise and mitigate potential impacts of clearing. The efforts include performing an in-situ flora survey in support of the application. Having identified four native flora species amongst the non-native weeds and shrubs (Figure 3 A-D) within the context of limited extent of the proposed clearing and Degraded condition of the application area, the applicant considered that there was no value in avoiding the four native species. The applicant, however, is committed to include the four native species in the rehabilitation and landscaping of the Youth precinct (Natural Area, 2021). The civil engineering contractor commissioned to construct the precinct has stated its commitment to strictly apply the weeds and dieback management measures along with the sediment, surface water and pollutant controls (Geographe Civil, 2021) to further minimise and mitigate any potential impacts of clearing and construction to the environment.

Given the limited amount of clearing, 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, and that no additional avoidance or minimisation could be made.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 B) identified that the impacts of the proposed clearing present a risk to adjacent flora and vegetation, and land and water 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. Conservation and Land and water resources – Clearing Principles (h), (f), (g) and (i)

Assessment

The application area is situated in an estuary (the Leschenault Inlet) that has been impacted by various disturbances that have altered both the physical and biological aspect of the area since European settlement (WAPC, 2017; Hill et al., 1996). As such, the soil is identified as the Vasse Disturbed Landfill Phase (211Vax-WATER), associated with historical dredging and alteration of the physical environment. The Leschenault Inlet area is now managed as a Regional Park, as a part of a network of managed and protected habitats within the region.

The application area is not located within any conservation area; however, it is situated on the shoreline of the Leschenault Inlet, an area mapped as a conservation category wetland (CCW). The Leschenault Peninsula where the application area is situated, is underlain by dune sand which is naturally prone to wind erosion. The area is also wave dominated and hydrodynamically driven by wind current. Clearing on the shoreline of the inlet may increase

the wind erosion effect; and introduce sediment and pollutant into the wetland that would in turn reduce its habitat value.

Given the limited extent of clearing and the applicant's commitment to apply storm water, erosion, sediment and pollutant control measures during clearing and construction of the Bunbury Youth Precinct (Geographe Civil, 2020), it is considered unlikely that the proposed clearing would result in additional sediment and / or pollutant influx into the Inlet that would degrade the CCW values.

Noting the limited extent of clearing and the location behind a dune, the proposed clearing is unlikely to lead to appreciable land degradation due to wind erosion provided the land management measures committed by the applicant is observed. Ensuring construction commences within two months of clearing will mitigate against any impacts from wind erosion.

It is noted that the vegetation within the application area is in Degraded condition and infested by non-native weeds. Clearing could spread and / or introduce weeds and dieback to adjacent vegetation. Weed and dieback management strategies will likely reduce this risk.

Conclusion

Based on the above assessment, the Delegated Officer considered that the proposed clearing is unlikely to result in appreciable land degradation and / or increased sedimentation within the Inlet. The potential impact of clearing on adjacent vegetation could be minimised by applying appropriate wind, weeds and dieback management measures.

Condition:

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

- Construction of the Bunbury Youth Precinct to commence within two months of clearing to minimise wind erosion.
- Hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.

3.3. Relevant planning instruments and other matters

The application area is located primarily within Lot 681 Koombana Drive, a reserve (Reserve 40486) vested with the City of Bunbury for management. A small portion of the application area occurs within an Unidentified Water Reserve (PIN 1248453). There is no registered managing authority of the land at PIN 1248453. Noting that the City of Bunbury currently manages the surrounding reserve, the City of Bunbury has determined that for the purpose of the Youth Precinct the land is under the care of the City (City of Bunbury, 2021).

The application area is situated within an area zoned Regional Open Space (ROS) under the Greater Bunbury Region Scheme. Within the Regional Park, the application area is zoned as the Recreation zone. The purpose of the proposed clearing to extend the beach area for the development of the Bunbury Youth Precinct (WAPC, 2017) is consistent with the zoning of the area.

The Leschenault Inlet's watered area adjacent to the application area is an area of CCW. Upon request by the applicant in 2020, the Department of Biodiversity, Conservation and Attraction (DBCA) has provided their support of the Youth Precinct development plan on a condition that there should be no pollutant or sediment run-off to the adjoining Leschenault Inlet CCW (DBCA, 2020).

End

Appendix A. Site characteristics

A.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 DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

Characteristic	Details
Local context	<p>The area proposed to be cleared is a 0.099-hectare isolated patch of coastal shrubberies and sedges on the edge of a beach on the west end of the Leschenault Inlet Foreshore. The application area is located immediately west of a manmade channel on the sand dune west of the Inner Harbour within the City of Bunbury. The land associated with the Leschenault Inlet has been subject to various disturbances that have altered both the physical and biological aspects of the area. The application area is part of Luciana Park designated for recreation purposes, surrounded by urban dwellings.</p> <p>Aerial imagery and spatial data indicate the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 24 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area is not a part of any ecological linkage, it is however adjacent to the Leschenault Estuary which is a part of the North-South and Riverine ecological linkages as identified by the EPA in the Greater Bunbury Ecological Linkage Plan (Bulletin 1108). The proposed clearing will not impact this linkage.</p>
Conservation areas	<p>The application area is adjacent to the Lechenault Inlet, an area of conservation category wetland (CCW) identified on the Geomorphic Wetland – Swan Coastal Plain.</p>
Vegetation description	<p>Photographs provided by the applicant indicate that the vegetation within the application area comprises of shrubs and sedges, including non-native weeds. A flora survey conducted in July 2021 identified the vegetation type within the application area as a Mixed Open Coastal Heath, comprising of predominantly weed species mixed with sparse native sedges and shrubs. The survey identified 22 flora species within the application area, four of which are native: <i>Ficinia nodosa</i>, <i>Lepidosperma gladiatum</i>, <i>Frankenia pauciflora</i> and <i>Acacia saligna</i> (Natural Area, 2021). The full survey descriptions and maps are available in Appendix D.</p> <p>The vegetation type within the application area is not consistent with the mapped Vasse Complex (57) vegetation complex, which is described as mixture of the closed scrub of <i>Melaleuca</i> species fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca</i> species and open forest of <i>Eucalyptus gomphocephala</i> (Tuart) - <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri). Near Mandurah and south of the Capel River this includes areas dominated by <i>Tecticornia</i> and <i>Sarcocornia</i> species (Samphire)</p>
Vegetation condition	<p>A flora survey indicates the vegetation within the proposed clearing area is in Completely Degraded condition (Keighery, 1994) with minimal native species present (Natural Area, 2021).</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos and summary of the survey are available in Appendix D.</p>
Climate and landform	<p>The landform of the area is typical of that of Swan Coastal area, consisting of marine deposit.</p> <p>The climate of the application area and surround is characterised by a mean annual rainfall of 718.4 mm, mean minimum temperature of 8°C and mean maximum temperature of 27°C. Predominant wind directions are easterlies and westerlies.</p>

Characteristic	Details
Soil description	The soil is mapped as the Vasse Disturbed Landfill Phase (211Vax-WATER), associated with historical dredging and alteration of physical environment. The application area is on the Leschenault Peninsula, which is underlain by dune sand, which in turn underlain by muddy estuarine sediments (WAPC, 2019).
Land degradation risk	The soils within the application area are mapped as having low risk of land degradation due to wind erosion, water erosion, salinity, flooding, water logging or acidification. Notwithstanding this, being on a sand dune and situated near to the foreshore, the application area is prone to wind erosion.
Waterbodies	The application area does not intercept any water bodies or watercourses. It is, however, immediately adjacent to the manmade water channel and is on the edge a CCW Geomorphic Wetlands of Swan Coastal Plain (Estuary Peripheral).
Hydrogeography	It is within the Coastal Plain Hydrogeological Zone of WA. Ground water salinity is between 500 to 1000 mg/L TDS.
Flora	Thirteen conservation significant flora have been recorded within 10 km radius from the application area, two of which are threatened species. None of the flora species were recorded within the application area. A flora survey conducted in the application area identified 22 flora species, four of which are native species and do not resemble conservation significant flora.
Ecological communities	No priority or threatened ecological communities is recorded within proximity to the application area. The closest ecological community is a Tuart Woodlands (Priority 3) approximately 3 km southeast of the application area. The application areas does not resemble any priority or threatened ecological communities recorded within the local area.
Fauna	Several conservation significant fauna have been recorded within 10 km radius from the application area, many of which are marine species associated with the open ocean and the coastal area.

A.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*					
Swan Coastal Plain	1,501,209.18	587,889.09	39.16	195,834.88	33.31
Vegetation complex					
Vasse Complex	15,691.62	4,926.97	31.40	2,294.43	14.62
Local area (calculation - delete if not required)					
10km radius	15,521	4,097	26.40	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

A.3. Flora analysis table

Species name	Conservation status	Suitable habitat feature?	Suitable vegetation type (Y/N)	Suitable Soil type (Y/N)	Distance of the closest record to application area (km)	Number of known records within the local area	Are survey adequate to identify (Y/N)
<i>Acacia flagelliformis</i>	4	Y	N	Y	5.63	2	Y
<i>Aponogeton hexatepalus</i>	4	N	N	N	6.57	4	Y
<i>Austrostipa bronwenae</i>	T	N	N	N	4.95	1	Y
<i>Austrostipa jacobiana</i>	T	N	N	Y	5.80	1	Y
<i>Caladenia speciosa</i>	4	N	N	Y	4.85	7	Y
<i>Diuris drummondii</i>	T	N	N	N	4.50	3	Y
<i>Lasiopetalum membranaceum</i>	3	N	N	Y	4.89	7	Y
<i>Ornduffia submersa</i>	4	N	N	N	7.96	1	Y
<i>Platysace ramosissima</i>	3	N	N	N	5.74	1	Y
<i>Pultenaea skinneri</i>	4	N	N	N	6.33	5	Y
<i>Schoenus benthamii</i>	3	N	N	N	5.45	1	Y
<i>Stylidium longitubum</i>	4	N	N	N	8.92	1	Y
<i>Verticordia attenuata</i>	3	N	N	N	6.94	3	Y

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

A.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation 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>Calyptorhynchus banksii naso</i> (Forest red-tailed black cockatoo)	VU	N	N	0.47	9	N/A
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	N	N	0.84	7	N/A
<i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)	EN	N	N	0.32	71	N/A
<i>Calyptorhynchus sp.</i> 'white-tailed black cockatoo' (White-tailed black cockatoo)	EN	N	N	1.11	13	N/A
<i>Galaxiella nigrostriata</i> (black-stripe minnow, black-striped dwarf galaxias)	EN	Y	N/A	8.01	1	N/A
<i>Oxyura australis</i> (Blue-billed duck)	P4	Y	N	2.00	72	N/A
<i>Thalassarche carteri</i> (Indian yellow-nosed albatross)	EN	Y	N/A	0.80	3	N/A

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

A.5. Ecological community analysis table

Community name	Conservation status (WA)	Conservation Status (Commonwealth)	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)
Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	N	N	N	3.55	366
Dense shrublands on clay flats (floristic community type 9 as originally described in Gibson et al. (1994))	Vulnerable	Critically Endangered	N	N	N	4.99	2
Herb rich saline shrublands in clay pans (floristic community type 7 as originally described in Gibson et al. (1994))	Vulnerable	Critically Endangered	N	N	N	5.89	3
Herb rich shrublands in clay pans (floristic community type 8 as originally described in Gibson et al. (1994))	Vulnerable	Critically Endangered	N	N	N	4.90	8
Sedgeland in Holocene dune swales of the southern Swan Coastal Plain (floristic community type 19 as originally described in in Gibson et al. (1994))	Critically Endangered	Endangered	N	N	Y	6.50	2
Shrublands on calcareous silts of the Swan Coastal Plain (floristic community type 18 as originally described in in Gibson et al. (1994))	Vulnerable		N	N	Y	5.26	3
Shrublands on dry clay flats (floristic community type 10a as originally described in Gibson et al. (1994))	Endangered	Critically Endangered	N	N	N	7.26	1
Subtropical and Temperate Coastal Saltmarsh	Priority 3	Vulnerable	N	N	Y	2.89	10
Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain	Priority 3	Critically Endangered	N	N	N	3.05	61

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

A.6. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	L2: 3-10% of the map unit has a very high to extreme hazard
Water erosion	L1: <3% of the map unit has a moderate to high hazard
Salinity	L2: 3-10% of the map unit has a moderate or high hazard or is presently saline
Subsurface Acidification	L1: <3% of the map unit has a moderate to high hazard
Flood risk	L1: <3% of the map unit has a moderate to high hazard
Water logging	L1: <3% of the map unit has a moderate to high hazard
Phosphorus export risk	L1: <3% of the map unit has a moderate to high hazard

Appendix B. 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> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>A flora survey has been conducted within the application area (Natural Area, 2021). The survey identified 22 flora species, mostly non-native weeds with only four flora species identified as native. The application area is unlikely to contain a high level of biodiversity. No conservation significant flora, fauna or communities were identified within the application area.</p>	Not likely to be at variance	No
<p><u>Principle (b):</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 significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>Several conservation significant fauna have been recorded within the local area. Many of the recorded fauna are either historical or of marine species associated with the open ocean nearby, which are unlikely to be present in the application area. Black cockatoos and some other vertebrate fauna have also been recorded near the application area. Given the type of vegetation, the Degraded condition and location of the application area, it is unlikely that these fauna species inhabit the application area. The proposed clearing is unlikely to impact on significant habitat for fauna species.</p>	Not likely to be at variance	No
<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>A flora survey within the application area did not find any Threatened flora species (Natural Area, 2021).</p>	Not likely to be at variance	No
<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 (Natural Area, 2021).</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<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 extent of native vegetation within the local area (approximately 26.4%) is below the national objectives and targets for biodiversity conservation of 30 percent vegetation cover. Given the limited extent of clearing, the Degraded condition of vegetation, and the location of the application area within a developed and highly disturbed urban area, the proposed clearing is unlikely to significantly reduce the vegetation cover nor exacerbate the loss of vegetation within the local context.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<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>The application area is adjacent to the Lechenault Inlet, an area mapped as a CCW. Clearing may directly or indirectly impact the conservation area.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1</i>
Environmental value: land and water resources		
<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>The proposed clearing is associated with the Leschenault Inlet, an estuary wetland (Hill et al., 1996). The propose clearing may have an impact on the estuary, although given the small extent of clearing it is considered that the impact is unlikely to be significant.</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The soils within the application area comprise of mostly sand and infill due to the historical disturbance. Clearing of the fringing vegetation may impact on the land resources within the Inlet, although given the limited extent of clearing it is unlikely to lead to appreciable land degradation.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (i):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing will not intercept any water courses or ground water. Clearing of the fringing vegetation may increase sedimentation within the Inlet. However it is unlikely to impact on the quality of surface water in the long term.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></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>	Not likely to be at variance	No

Appendix C. 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.
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 D. Biological survey information excerpts and photographs of the vegetation (Natural Area, 2021)

Natural Area Consulting Management (Natural Area) was commissioned by the City of Bunbury to undertake a basic flora survey within the application area prior to the application for a clearing permit.

The survey was conducted on 18 June 2021 in accordance with the Technical Guidance for Flora and Vegetation Surveys for Environmental Impact Assessment (Environmental Protection Authority, 2016) and included a desktop review of literature and databases. Natural Area admitted that the survey was undertaken outside of the optimal time of year (Spring) when some annual conservation significant flora would be representing. Noting the Degraded nature of the site and that the site consists of filled land, the presence of significant flora is considered unlikely (Natural Area, 2021).



Figure 2 (A – D). Coastal vegetation proposed to be cleared. Photographs were taken in July 2021. (Source: City of Bunbury, 2021)



Figure 3 (A-D). Four species of native vegetation within the application area. (A) *Ficinia nodosa*; (B) *Lepidosperma gladiatum*, (C) *Frankenia pauciflora*, (D) *Acacia saligna* (Source: Natural Area, 2021)

Appendix E. Sources of information

E.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)

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