Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9187/1
Permit type:	Area permit
Applicant name:	Department of Planning, Lands and Heritage
Application received:	18 January 2021
Application area:	2.97 hectares of native vegetation
Purpose of clearing:	Laydown areas, stockpiling of soil and other facilities associated with the construction of the Bayulu Containment Cell
Method of clearing:	Mechanical
Property:	Lot 14 on Deposited Plan 183081 Lot 68 on Deposited Plan 238022
Location (LGA area/s):	Shire of Derby-West Kimberley
Localities (suburb/s):	St George Ranges

1.2. Description of clearing activities

The vegetation proposed to be cleared includes 2.97 hectares of *Acacia* shrubland contained within a single contiguous area of native vegetation (see Figure 1, Section 1.5). The proposed clearing is to allow for site facilities, laydown areas and temporary stockpiling of soil as required for the excavation and associated construction of the Bayulu Asbestos Containment Cell.

1.3. Decision on application

Decision:	Granted
Decision date:	31 March 2021
Decision area:	2.97 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 21 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), 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). The Delegated Officer also took into consideration that the purpose of the proposed clearing was to support the construction of an asbestos containment cell, in order to facilitate upgrades to water services and wastewater infrastructure for the Bayulu Aboriginal Community, as part of the Essential and Municipal Upgrades Project.

The assessment identified that the proposed clearing has the potential to facilitate in the introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values. However, given that temporarily cleared areas will be revegetated following clearing and noting the extent remnant vegetation of similar habitat values in the local area, the proposed clearing was not considered likely to constitute a significant residual impact to the adjacent vegetation or any other biological, conservation, or land and water resource value.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined that the proposed clearing can be managed to be unlikely to lead to an unacceptable risk to environmental values. The Delegated Officer decided to grant a clearing permit subject to conditions to:

- Avoid, minimise and reduce the impacts and extent of clearing;
- Take hygiene steps to minimise the risk of the introduction and spread of weeds;
- Undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- Retain vegetative material and topsoil and lay this over areas cleared for temporary works within six months of the areas no longer being required for use as a stockpile or laydown area.

1.5. Site map

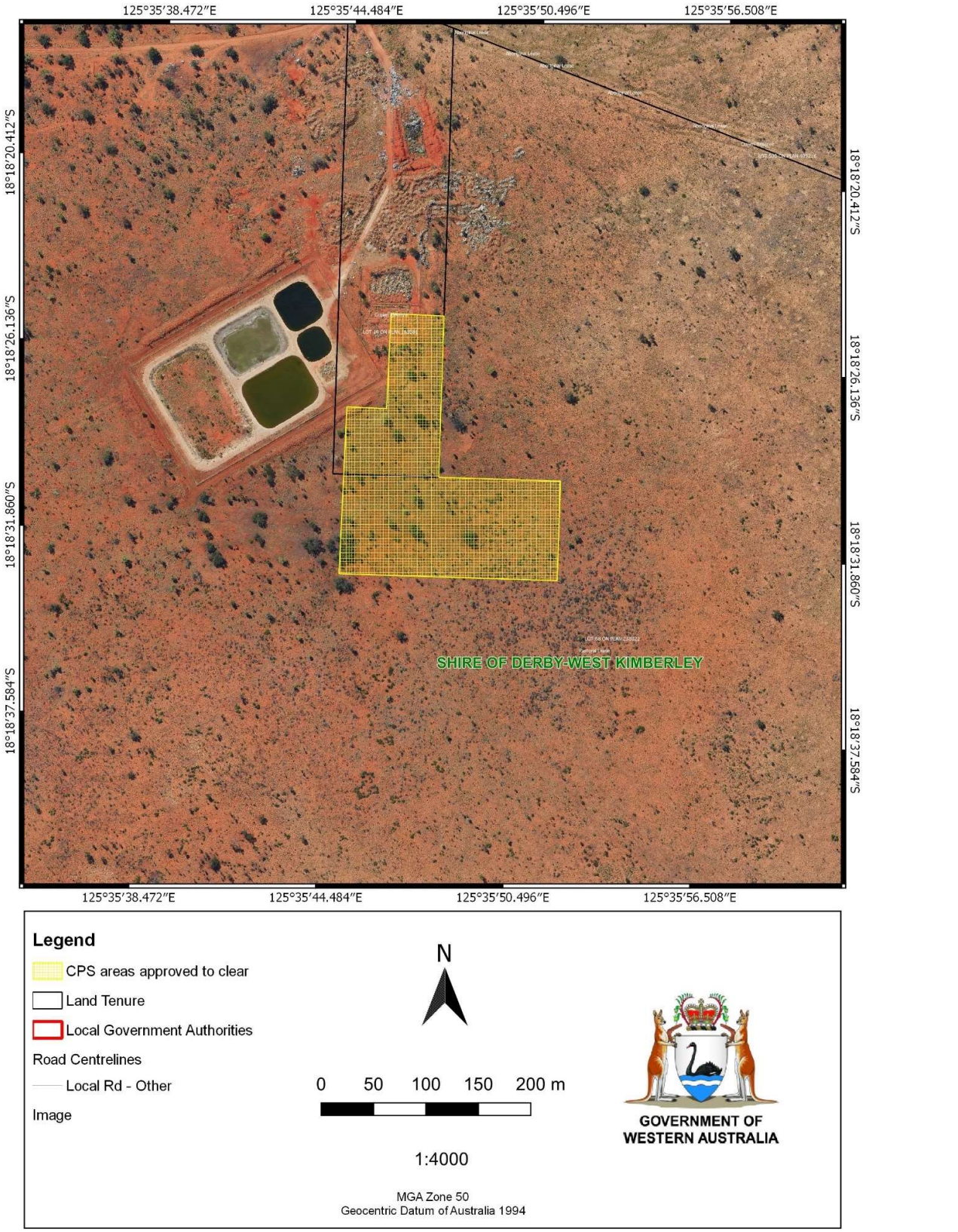

Figure 1 The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

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)

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)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has advised that the proposed clearing relates to the Essential and Municipal Upgrades Project, a government initiative to improve the standard of living for regional and remote communities (DPLH, 2021b). Under the Essential and Municipal Upgrades Project, the Bayulu Aboriginal Community has been identified as a priority for upgrades to water services and wastewater infrastructure (DPLH, 2021b). However, the current levels of asbestos contamination at the site make it unsafe for personnel to complete the required water services upgrades (DPLH, 2021b). Accordingly, contaminated material will need to be removed and placed into an asbestos containment cell prior to the upgrades being undertaken (DPLH, 2021b).

The applicant advised that alternatives such as an off-site waste disposal site that would negate the need for clearing were considered, however there were no existing landfill facilities in the Kimberley region with the capacity for this volume of contaminated material (DPLH, 2021a). Given the works are essential to improve water services for the Bayulu Community and need to be of sufficient size to facilitate the removal of asbestos containing material, it was considered that the proposed clearing could not be avoided or minimised further.

The applicant advised that the stockpiled material from the excavation of the asbestos containment cell would only comprise clean material that is not located within areas identified as potentially contaminated (DPLH, 2021b). The applicant advised that, following clearing, this stockpiled topsoil would be re-spread over temporarily cleared areas to encourage regeneration of vegetation, with the remaining stockpiled material used as the capping layer for the containment cell to backfill excavations (DPLH, 2021b). The revegetation of temporarily cleared areas will be conditioned on the clearing permit, to ensure this proposed mitigation measure is adhered to.

In considering the above, 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 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 biological values (fauna). 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 (b)

Assessment

A review of available databases indicates that a total of 27 conservation significant fauna species have been recorded within the local area (see Appendix A.3). These species were listed under the state *Biodiversity Conservation Act 2016* (BC Act) and/or Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), as Priority species by the Department of Biodiversity Conservation and Attractions (DBCA), or are migratory species listed under International Agreements (MI).

Of the conservation significant fauna species recorded within the local area, the following have the potential to be found within the application area based on habitat preferences:

- *Elanus scriptus* (Letter-winged kite) (Priority 4) is associated with open grasslands or shrublands in arid to semi-arid areas, roosting in the high canopy of mature trees (Marchant et al., 1993). The letter-winged kite occurs Australia-wide but is rare in Western Australia, and its abundance is heavily dependent on the availability of food sources including small rodents and marsupials (Marchant et al., 1993). The *Acacia* shrubland within the application area is unlikely to provide suitable roosting habitat, given the lack of tall mature trees, but may provide transient foraging habitat for this species as it migrates through the landscape.
- *Falco hypoleucos* (Grey falcon) (Vulnerable under EPBC Act and BC Act) occurs in arid and semi-arid inland Australia and is associated with timbered lowland plains such as tussock grassland, open woodland, and particularly *Acacia* shrublands that are crossed by tree-lined watercourses (TSSC, 2020). The grey falcon roosts and nests in the tallest trees along watercourses, particularly river red gum (*Eucalyptus camaldulensis*) and coolibah (*Eucalyptus coolabah*) (TSSC, 2020). The *Acacia* shrubland within the application area is unlikely to provide suitable roosting or breeding habitat, given the lack of tall mature trees, but may provide transient foraging habitat for this species as it migrates through the landscape.
- *Falco peregrinus* (Peregrine falcon) (Other Specially Protected Fauna) is found Australia-wide and occurs in a range of habitats including woodlands, grasslands and coastal cliffs, usually near watercourses (DAWE, 2020). Preferred roosting and breeding habitat for the peregrine falcon includes granite outcrops and coastal cliffs, but in the absence of these habitats, the species has been known to utilise the nests of other bird species or tree hollows for breeding (Marchant et al., 1993). The *Acacia* shrubland within the application area is unlikely to provide suitable roosting or breeding habitat, given the lack of granite outcrops and hollow-bearing trees, but may provide transient foraging habitat for this species as it migrates through the landscape.
- *Lagorchestes conspicillatus leichardti* (Spectacled hare-wallaby (mainland)) (Priority 4) inhabits open woodlands, shrubland and hummock grasslands with adequate shelter resources such as shrubs, grass tussocks or spinifex hummocks that are within 50 metres of feeding areas with suitable herb, grass or shrub foliage for grazing (Ingleby and Westoby, 1992). The *Acacia* shrubland within the application area may provide suitable shelter and foraging resources for this species.
- *Polytelis alexandrae* (Princess parrot) (Vulnerable under EPBC Act and Priority 4 in Western Australia) is typically associated with shrubland in swales between sand dunes, that include a variety of shrubs among scattered emergent trees, with a ground-cover of spinifex *Triodia* species (TSSC, 2018). The princess parrot forages on the ground and in flowering shrubs and trees for seeds, seed pods, nectar and leaves, and nests within large trees (TSSC, 2018). The *Acacia* shrubland within the application area is unlikely to provide suitable breeding habitat, given the lack of tall mature trees, but may provide suitable foraging habitat for this species.
- *Rhinonicteris aurantia* (Orange leaf-nosed bat) occurs in a wide range of habitats across northern Australia including monsoon rainforest, tall open forest, mangroves, palm forest, open savannah woodland, black soil grassland and spinifex grassland, which are utilised for foraging (Hourigan, 2011). The species also requires cave roosts with specific microclimate conditions (Hourigan, 2011). The *Acacia* shrubland within the application area is unlikely to provide suitable roosting habitat, given the lack of suitable cave roost sites, but may provide suitable foraging habitat for this species.

While the aforementioned conservation significant fauna species have the potential to occur within the application area, it is acknowledged that *Acacia* shrubland habitat is well-represented in the local area and that the application area is part of an expansive tract of remnant vegetation. It is also noted that, while the application area provides suitable transient and foraging habitat for these species, it is unlikely to comprise significant breeding or roosting habitat, given the application area lacks tall mature trees, granite outcrops or cave sites. Noting that the application area comprises approximately 0.0004 per cent of all remnant vegetation in the local area and that much of this habitat would be suitable for the above conservation significant fauna species, it is not considered likely that the clearing of 2.97 hectares of suitable foraging habitat would significantly impact these species. Further, given the extent of suitable habitat in the local area and that temporarily cleared areas will be revegetated following clearing, it is not likely that the proposed clearing will reduce connectivity within adjacent vegetation or significantly impact fauna species utilising the area for movement or migration between areas of suitable habitat. A directional clearing

condition is considered to mitigate direct impacts to fauna, should they be present within the application area at the time of the clearing.

Conclusion
Based on the above assessment, the Delegated Officer determined that the application area is unlikely to represent significant breeding, roosting or foraging habitat for any conservation significant fauna species, and that the proposed clearing does not constitute a significant residual impact to fauna habitat.

Conditions
A condition on the clearing permit requiring slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity is considered to minimise direct impacts to individuals.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on DWER's website on 27 February 2021, inviting submissions from the public within a 21-day period. No submissions were received in relation to this application.

The Shire of Derby-West Kimberley (the Shire) advised DWER that the Shire had no comments regarding the clearing permit application and did not have any objections to the proposed clearing (Shire of Derby-West Kimberley, 2021).

DWER's Contaminated Sites Branch (CS) advised that Lot 14 on Deposited Plan 183081 was first reported due it its historical use as a landfill and was classified as 'possibly contaminated investigation required' under the *Contaminated Sites Act 2003* in 2011 (DWER, 2021b). CS advised that the vegetation proposed to be cleared intersects possible landfill areas used for the disposal of degradable waste (including household and green waste), building rubble and asbestos containing materials (ACM) (DWER, 2021b). CS advised that it had no objection to the construction of the proposed asbestos containment cell, given pre-works investigations were carried out in accordance with the *'Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia'* (DOH, 2009) and that a construction environmental management plan is prepared and adhered to, including appropriate management measures for ACM (DWER, 2021b). The applicant has been advised that it is their responsibility to ensure that clearing activities undertaken under CPS 9187/1 and the subsequent land use complies with the requirements of the *Contaminated Sites Act 2003*.

DWER's Regional Services Water Licensing section advised that there were no objections to the proposed clearing in relation to the *Rights in Water and Irrigation Act 1914* (RIWI Act) (DWER, 2021a)

The West Kimberley Land Conservation District Committee (LCDC) were invited to provide comment on the clearing permit application. No comments were received.

In accordance with 24KA s2 of the *Native Title Act 1993*, the Gooniyandi People Native Title claimants were invited to provide comment on the clearing permit application. No comments were received.

No Aboriginal sites of significance have been mapped within the application area. 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. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is adjacent to the Bayulu Aboriginal Community and is partially within the Gogo Station Pastoral Lease. Spatial data indicates that the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains approximately 99.91 per cent of the original native vegetation cover.
Ecological linkage	The application area does not comprise part of any mapped ecological linkages. Noting the extent of native vegetation in the local area and that the application area forms part of an expansive tract of remnant vegetation, the application area is not considered to comprise a significant ecological linkage.
Conservation areas	The closest conservation area is Danggu Conservation Park and adjacent Danguu National Park, located approximately 21.6 kilometres north of the application area.
Vegetation description	Photographs supplied by the applicant indicate that the vegetation within the proposed clearing area consists of *Acacia* shrubland with scattered *Eucalyptus* species over spinifex (*Triodia* spp.) shrub (DPLH, 2021b). Representative photos are available in Appendix D. This is consistent with the mapped Beard vegetation associations: • Beard vegetation association 699, which is described as shrublands, pindan; *Acacia eripoda* shrubland with scattered low bloodwood (*Eucalyptus dicromophloia*) and *Eucalyptus setosa* over soft and curly spinifex on sandplain; and • Beard vegetation association 709, which is described as hummock grasslands, shrub steppe; *Acacia impressa* over *Triodia intermedia* on stony laterite (Shepherd et al, 2001). Spatial data indicates that the Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion for the application area (Dampierland) and both mapped Beard vegetation associations retain greater than 95 per cent of their pre-European vegetation extent (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in Good (Trudgen, 1991) condition (DPLH, 2021b), described as having more obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds (Trudgen, 1991). The full Trudgen (1991) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.
Climate and landform	The application area occurs on flat topography and has a mean annual maximum temperature of 36.1°C and a mean annual minimum temperature of 20.2°C. The mean annual rainfall is 600 millimetres and the annual evapotranspiration rate is 500 millimetres.
Soil description and land degradation risk	The soil is mapped within the Camelgooda System (331Cm) described as sandplains, swales and linear sand dunes supporting low pindan woodlands of acacias and low woodlands of bauhinia and bloodwood with curly spinifex and ribbon grass (DPIRD, 2019).

Characteristic	Details
	The Camelgooda Land System is not considered to be prone to land degradation or erosion (Payne and Schoknecht, 2011). Recently burnt or grazed areas have a higher susceptibility to wind erosion; however, these areas tend to stabilise rapidly after rainfall (Payne and Schoknecht, 2011)
Waterbodies	The desktop assessment and aerial imagery indicated that the application area transects one non-perennial lake which forms part of the Lower Fitzroy River Water Catchment Area. The application area does not occur within any mapped wetland system, with the closest mapped wetland being the Geikie Gorge, approximately 24.7 kilometres north-west of the proposed clearing area.
Hydrogeography	The application area is mapped within the Canning-Kimberley Groundwater Area and the Fitzroy River and Tributaries surface water area, proclaimed under the *Rights in Water and Irrigation Act 1914* (the RIWI Act). Groundwater salinity within the application area is mapped at 500 to 1000 milligrams per litre total dissolved solids.
Flora	The desktop assessment identified that a total of 13 rare flora species have been recorded within the local area, comprising six Priority 1 (P1) flora, two Priority 2 (P2) flora, and five Priority 3 (P3) flora (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of *Cullen candidum* (P1) and an occurrence of *Heliotropium foveolatum* (P1) approximately 1.5 kilometres from the application area. No threatened flora species have been recorded within a 50-kilometre radius of the application area. The closest record of a threatened flora species is an occurrence of *Eucalyptus mooreana*, approximately 89.8 kilometres from the application area. With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), the habitat preferences of the aforementioned species, the extent of suitable habitat in the local area, and the distribution and extent of existing records, impacts to conservation significant flora species or significant habitat for these species were not considered likely to result from the proposed clearing and did not require further consideration.
Ecological communities	The desktop assessment identified that the closest state-listed threatened ecological community (TEC) is an occurrence of the Species-rich faunal community of the intertidal mudflats of Roebuck Bay TEC, located approximately 350 kilometres west of the application area. The closest state-listed priority ecological community (PEC) is an occurrence of the Leopold Land System PEC, located approximately 30.6 kilometres south-east of the application area.
Fauna	The desktop assessment identified that a total of 27 threatened or priority fauna species have been recorded within the local area, including three threatened fauna species, 12 priority fauna species, 10 fauna species protected under international agreement, and two other specially protected fauna species (DBCA, 2007-). None of these records occur within the application area, with the closest record being a purple-crowned fairy-wren (*Malurus coronatus coronatus*) occurring approximately 5.9 kilometres from the application area.

Characteristic	Details
	With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and the habitat preferences of the species, the application area may provide suitable habitat for six conservation significant fauna species and impacts to these species required further consideration (see Appendix A.3).

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					
Dampierland	8,343,944.95	8,319,879.14	99.71	142,055.31	1.7
Vegetation complex					
Beard vegetation association 699	1,985,739.01	1,984,378.18	99.93	9409.78	0.47
Beard vegetation association 709	75,847.16	75,617.75	99.70	559.18	0.74
Vegetation complex within IBRA bioregion					
Beard vegetation association 699 (Dampierland)	1,976,313.50	1,974,958.06	99.93	9409.78	0.48
Beard vegetation association 709 (Dampierland)	61,628.23	61,398.83	99.63	559.18	0.91
Local area					
50 kilometre radius	789,206.81	788,483.07	99.91	-	-

Government of Western Australia (2019)

A.3. Fauna analysis table

With consideration for the site characteristics set out above and relevant datasets (see Appendix E.1), impacts to the following conservation significant fauna required further consideration.

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]
Elanus scriptus (Letter-winged kite)	P4	Y	Y	23.01	1	N/A
Falco hypoleucos (Grey falcon)	VU	Y	Y	29.4	1	N/A
Falco peregrinus (Peregrine falcon)	OS	Y	Y	24.7	2	N/A
Lagorchestes conspicillatus leichardti (Spectacled hare-wallaby (mainland))	P4	Y	Y	30.9	2	N/A
Polytelis alexandrae (Princess parrot)	P4	Y	Y	26.9	1	N/A
Rhinonicteris aurantia (Orange leaf-nosed bat)	P4	Y	Y	24.1	23	N/A

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority; OS: Other specially protected

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared includes 2.97 hectares of *Acacia* shrubland within an extensively vegetated local area and is not likely to contain locally or regionally significant flora, fauna, habitats, ecological communities, or ecological linkages. The proposed clearing area does not comprise a high level of biodiversity.	Not likely to be at variance	No
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared may contain suitable habitat for a number of conservation significant fauna species (see Appendix A.3). However, given the vegetation composition and the extent of similar suitable habitat in the local area, it is unlikely that the proposed clearing will result in the loss of significant habitat for these species.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: Given the vegetation composition, the extent of similar suitable habitat in the local area, and the distribution and extent of existing records, the area proposed to be cleared is considered unlikely to contain significant habitat for any flora species listed under the BC Act.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared includes 2.97 hectares of *Acacia* shrubland that is highly represented in the local area and is not likely to be consistent with any threatened ecological community (TEC) listed under the BC Act. Given the distance and separation from the nearest TEC, the proposed clearing is not likely to impact or be necessary for the maintenance of any state-listed TEC.	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation types and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	Not likely to be at variance	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to and separation from the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Given the application area includes vegetation adjacent to a non-perennial lake, the vegetation within the application area may be growing in association with an environment associated with a watercourse. However, noting the condition of the vegetation, the extensively vegetated local area, that temporarily cleared areas will be revegetated, and the non-perennial nature of the watercourse, the proposed clearing is unlikely to impact on- or off-site hydrology or to impact the environmental values of the associated riparian communities.	May be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are not susceptible to land degradation resulting from wind or water erosion, nutrient export, salinity, flooding, or waterlogging. While it is also acknowledged that the proposed clearing may cause degradation of adjacent vegetation through facilitating the spread of weeds, a weed management condition is considered sufficient to mitigate this risk. Noting the above, that the local area is extensively vegetated and that temporarily cleared areas will be revegetated following clearing, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (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."* Assessment: Given the application area includes a non-perennial lake, the proposed clearing has the potential to result in minor sedimentation or turbidity within this watercourse. However, noting that this will depend on water being present at the time of clearing, that the local area is extensively vegetated and that temporarily cleared areas will be revegetated following clearing, these impacts are likely to be minor and short-term. The proposed clearing is unlikely to result in significant impacts surface or ground water quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils and topographic contours in the surrounding area do not indicate that the application area is susceptible to flooding. Noting this, that the local area is extensively vegetated and that temporarily cleared areas will be revegetated following clearing, the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding.	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 Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Photographs of the vegetation

Figure 1. Photographs looking north-east into the application area (DPLH, 2021b).

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)
- DBCA Statewide Vegetation Statistics
- 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 Mapping – Best Available
- Soil Landscape Mapping – Systems

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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