GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8979/1
Permit Holder:	Shire of Lake Grace
Duration of Permit:	From 3 October 2020 to 3 October 2025

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of maintaining and enlarging a catchment and water supply dams.

2. **Land on which clearing is to be done**
   Lot 2079 on Deposited Plan 161967 (Crown Reserve 23140), Lake Biddy

3. **Area of clearing**
   The Permit Holder must not clear more than 44.755 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8979/1.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II – MANAGEMENT CONDITIONS

6. **Avoid, minimise and reduce the impacts and extent of clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
   (a) avoid the clearing of native vegetation;
   (b) minimise the amount of native vegetation to be cleared; and
   (c) reduce the impact of clearing on any environmental value.

7. **Weed control**
   When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
   (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known *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.

PART III – RECORD KEEPING AND REPORTING

8. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the clearing of native vegetation authorised under this Permit:
  (i) the species composition, structure and density of the cleared area;
  (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  (iii) the direction in which clearing was undertaken;
  (iv) the date(s) that the area was cleared; and
  (v) the size of the area cleared (in hectares).
(b) Actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit.
(c) Actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 7 of this Permit.

9. Reporting

The Permit Holder must produce the records required under condition 8 of this Permit when required by the *CEO*.

DEFINITIONS

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

fill means material used to increase the ground level, or fill a hollow;

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;

weed/s means any plant –
(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

Ryan Mincham
2020.09.10
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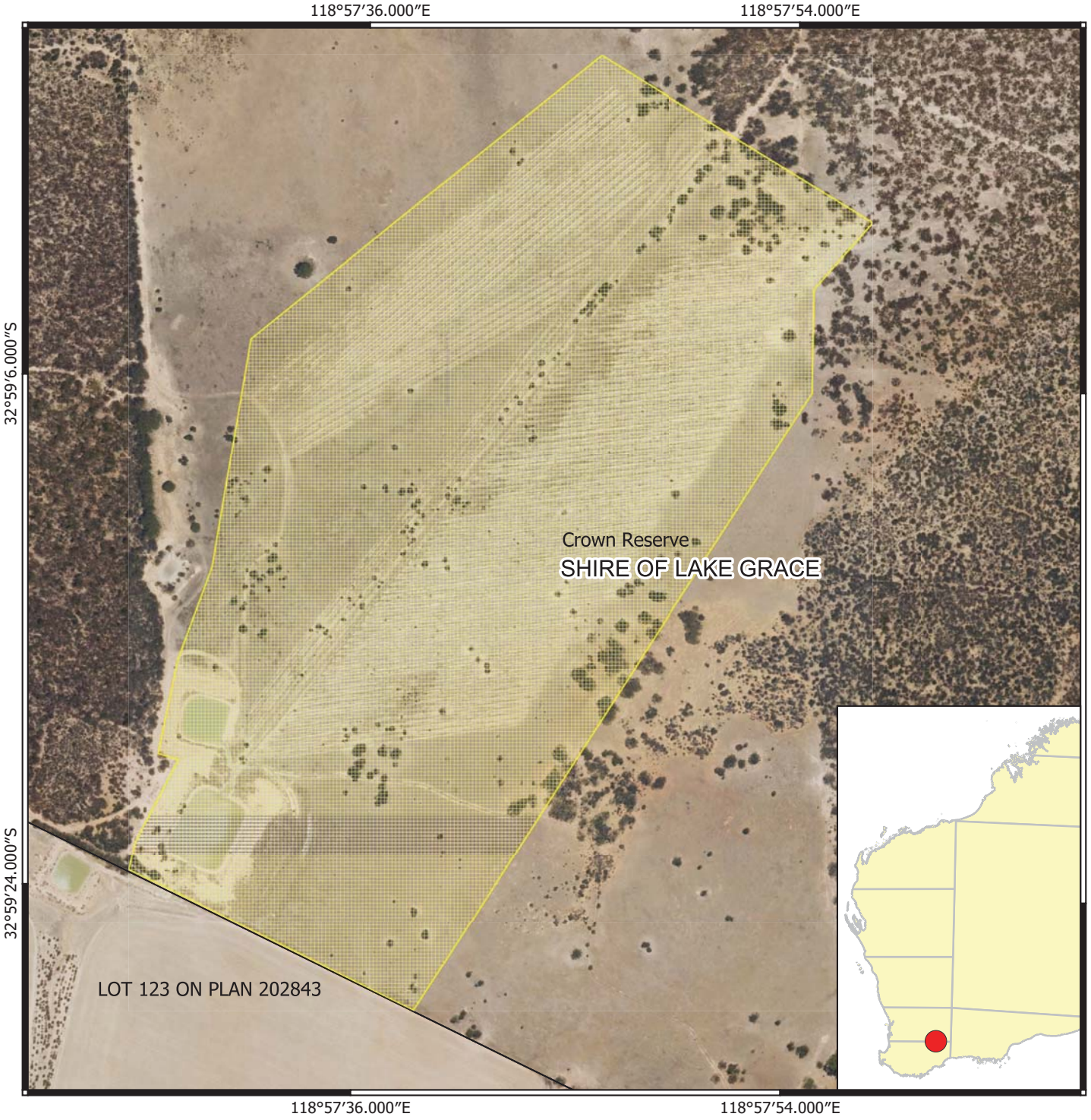
Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

10 September 2020

Plan 8979/1



Map Layers

- CPS areas approved to clear
- Land TenureLGATE - 226
- Local Government Authorities

N

0 50 100 150 200 m

1:5869

MGA Zone 50
Geocentric Datum of Australia 1994

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Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcome

1.1 Permit application details

Permit number:	CPS 8979/1
Permit type:	Purpose permit
Applicant name:	Shire of Lake Grace
Application received:	24 July 2020
Proposed clearing:	44.755 hectares (ha) of native vegetation (as revised)
Purpose of clearing:	Maintenance and enlargement of catchment and water supply dams
Method of clearing:	Mechanical removal
Property:	Lot 2079 on Deposited Plan 161967 (Crown Reserve 23140)
Location (LGA area/s):	Shire of Lake Grace
Localities (suburb/s):	Lake Biddy

1.2 Description of clearing activities

The application area is located within a previously cleared area and is situated between two adjacent remnants. The application form states that the total area of clearing is 44.75 ha of native vegetation (regrowth) for the purpose of maintaining an existing water catchment and enlarging water supply dams. On digitising, this was amended to 44.755 ha of proposed clearing. The extent of the proposed clearing (as revised) is indicated in Figure 1, and historical imagery of the application area is provided in Figure 2 (see Section 1.5).

1.3 Decision on application

Decision:	Granted
Decision date:	10 September 2020
Decision area:	44.755 ha of native vegetation (see Figure 1, Section 1.5)

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 application was advertised for 21 days and no public submissions were received.

In undertaking the assessment, the Delegated Officer had regard for the site characteristics (see Appendix A), photographs provided by the applicant (see Appendix D), relevant datasets (see Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), and any other matters considered relevant to the assessment (see Section 3). The assessment identified that the proposed clearing will result in the loss of vegetation that is growing in association with a watercourse that traverses the application area. The proposed clearing also has the potential to result in the introduction and spread of weeds into adjacent vegetation, which could impact on its habitat quality and a priority ecological community.

The Delegated Officer considered the impacts of the proposed clearing are unlikely to have any long-term adverse impacts on the environmental values in the local area[1], and that weed management will mitigate any potential impacts to adjacent vegetation.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures, the Delegated Officer determined that the impacts of the proposed clearing could be minimised and managed to be environmentally acceptable. The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise and reduce the impacts and extent of clearing;
- take steps to minimise the risk of the introduction and spread of weeds.

[1] For this application, the local area is defined as a 20-kilometre radius from the perimeter of the application area.

1.5 Site map

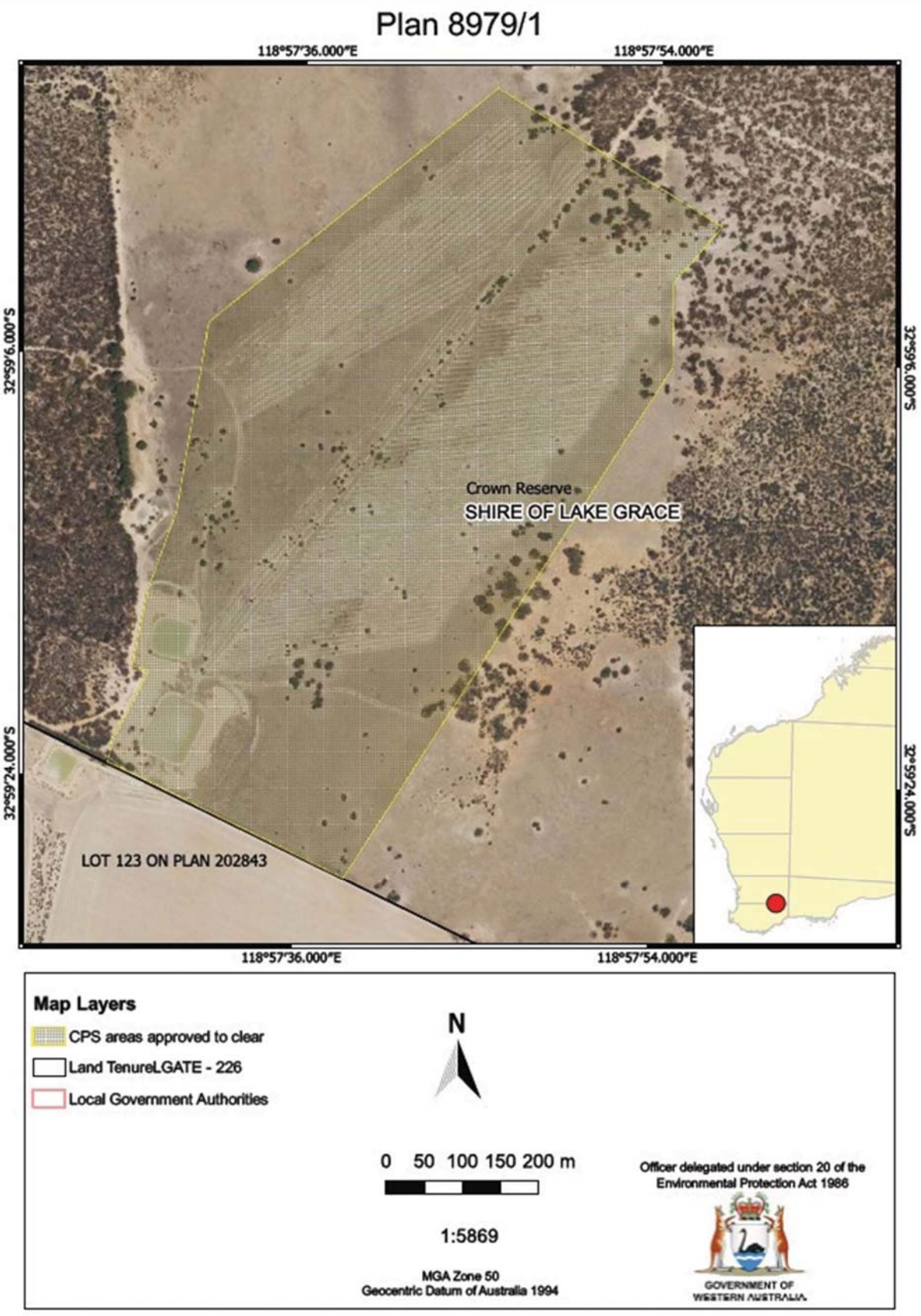

Figure 1: Map of area approved to clear. The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

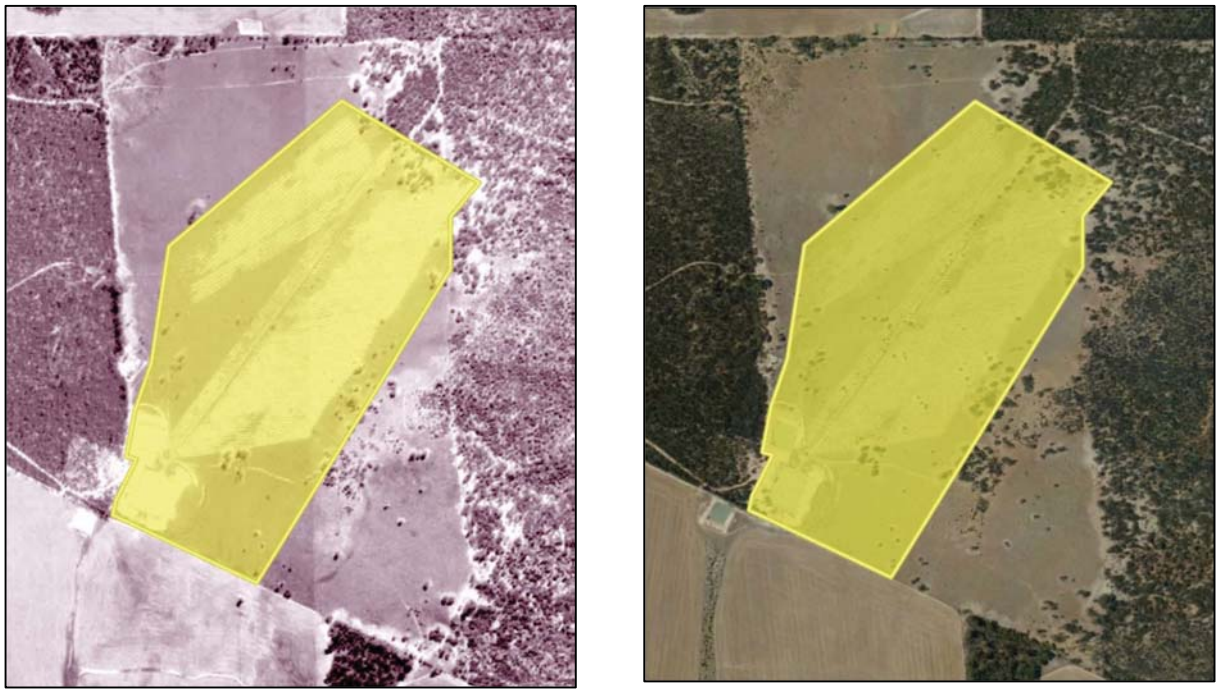

Figure 2: Imagery from 1999 (left) and 2014 (right) indicating extent of historical clearing within the application area (source: Geocortex datasets).

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 1.3), 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)
- *Conservation and Land Management Act 1984* (WA)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth)
- *Rights in Water and Irrigation Act 1914*.

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DWER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019).

3. Detailed assessment of application

3.1 Avoidance and mitigation measures

The application form indicates that the applicant considered alternatives that would avoid or minimise the need for clearing, however states 'No alternatives, catchments already exist just require clearing of vegetation to improve stormwater flow into dams'.

3.2 Assessment of environmental impacts

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A), and considered the extent to which the impacts of the proposed clearing present a risk to environmental values and whether these can be managed to be environmentally acceptable. The assessment against the clearing principles is contained in Appendix B.

This assessment identified that the impacts of the proposed clearing present a risk to a watercourse and adjacent vegetation. 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 Fauna

Assessment

The vegetation proposed to be cleared comprises largely of scattered regrowth mallee and shrubs within a previously cleared area, with the exception of three portions with a combined total of approximately 0.8 hectares (ha) that are mapped as remnant vegetation. The vegetation is considered to be in degraded to completed degraded condition, with approximately 0.8 ha in three areas considered to be in good to degraded condition.

Available aerial photography and spatial datasets indicate that large patches of remnant vegetation occur adjacent to the east and west of the application area. No mapped significant ecological linkages occur in the local area.

Four threatened, three priority, one 'conservation dependent' and one 'other specially protected' fauna, and one fauna protected under an international agreement, have been recorded in the local area. In forming a view on the likelihood of these species occurring within the application area, the preferred habitat types and typical home ranges of these species and their recorded proximity to the application area were considered, along with the type and condition of the vegetation within the application area.

Noting the condition of the vegetation proposed to be cleared, and the absence of thickets, shrublands, dense understorey, and aquatic habitats within the application area, the majority of these fauna are unlikely to utilise the application area other than potentially to move between remnants adjacent to the application area. However, it is considered that the application area may be utilised by one 'other specially protected' fauna species:

- Peregrine falcon (*Falco peregrinus*; Other Specially Protected): The Australian Museum website states that this species 'is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites, and prefers coastal and inland cliffs or open woodlands near water, and may even be found nesting on high city buildings' (Australian Museum, 2020). The nearest record is approximately 2.9 km from the application area. This species is widespread and highly mobile, and is found in various habitats, and may utilise the application area.

Significant habitat refers to the resources (breeding, resting and feeding), connectivity or habitat area for a species or community that is critical for its survival. Noting the condition of the vegetation proposed to be cleared, the application area is unlikely to be significant for the survival of indigenous fauna or be necessary for the maintenance of significant habitat.

There is potential that the proposed clearing activities could result in the introduction or spread of weeds into adjacent vegetation, which could impact on its habitat quality.

Conclusion

From the above, the application area may comprise suitable habitat for indigenous fauna, including (at least) one species of conservation significance, however, is unlikely to comprise significant habitat for fauna.

It is considered that potential impacts to adjacent vegetation can be managed to be environmentally acceptable by requiring the applicant to take steps to minimise the risk of the introduction and spread of weeds. This will be required as a condition on the clearing permit.

3.2.2 Flora and vegetation

Assessment

Conservation-significant flora

Nine threatened and 40 priority flora have been recorded in the local area. In forming a view on the likelihood of these species occurring within the application area, the preferred habitat types of these species and their recorded proximity to the application area were considered, along with the vegetation/soil types and landforms within the application area.

Eight threatened and 36 priority flora have been recorded from a different mapped soil type and/or more than 4 km from the application area. One threatened and four priority flora have been recorded within 4 km of the application area from a soil type mapped within the application area, these are considered below.

- *Verticordia staminosa* var. *erecta* (Threatened): The Florabase website (Western Australian Herbarium, 1998-) indicates that this species is known from 10 recorded populations (some records may overlap) in the local government area of Lake Grace. The Florabase website describes this species as an erect, compact shrub to 0.15-1 m high; flowers green-yellow/yellow-brown in July to October; growing in soil pockets associated with granite outcrops. The nearest record is approximately 2.6 km from the application area, from a different mapped soil type; some other records from a soil type mapped across approximately 4 per cent of the application area.
- *Gastrolobium euryphyllum* (Priority 1): The Florabase website indicates that this species is known from 4 recorded populations (some records may overlap) in the local government area of Lake Grace. The Florabase website describes this species as a slender, erect, glaucous shrub to 2.5 m high; flowers orange-yellow in September to December or January; growing in sand over laterite associated with rolling sand dunes. The nearest record is approximately 2.3 km from the application area, from a different mapped soil type; some other records from a soil type mapped across approximately 4 per cent of the application area.
- *Thysanotus lavanduliflorus* (Priority 1): The Florabase website indicates that this species is known from 8 recorded populations (some records may overlap) in the local government area of Lake Grace. The Florabase website describes this species as a caespitose perennial herb (with tuberous roots) to 0.25 m high; flowers purple in November to December; growing in sand and sandy loam. The nearest record is approximately 1.8 km from the application area, from a different mapped soil type; some other records from a soil type mapped within the application area.
- *Synaphea cervifolia* (Priority 2): The Florabase website indicates that this species is known from 21 recorded populations (some records may overlap) in the local government areas of Dumbleyung, Kulin and Lake Grace. The Florabase website describes this species as a shrub, to 0.3 m high; flowers yellow in June to October; growing in sandy clay and gravel. The nearest record is approximately 1.6 km from the application area, from a different mapped soil type; some other records from a soil type mapped across approximately 4 per cent of the application area.
- *Bentleya spinescens* (Priority 4): The Florabase website indicates that this species is known from 19 recorded populations (some records may overlap) in the local government areas of Lake Grace. The Florabase website describes this species as a spiny rhizomatous, perennial, herb or shrub to 0.05-0.2 m high and 0.02-0.2 m wide; flowers white-cream-green in September to October; growing in sandy clay. The nearest record is approximately 3.1 km from the application area, from a different mapped soil type; some other records from a soil type mapped within the application area.

Noting the condition of the vegetation proposed to be cleared, in particular that it comprises largely of scattered regrowth mallee and shrubs within a previously cleared area, it is considered that the application area is unlikely to include any conservation-significant flora.

Conservation-significant ecological communities

Several occurrences of the 'Eucalypt woodlands of the Western Australian Wheatbelt' (Priority 3) priority ecological community (PEC) have been recorded in the local area. This PEC is also a Commonwealth-listed threatened ecological community (TEC) under the *Environment Protection and Biodiversity Conservation Act 1999*. The nearest occurrence of this PEC is approximately 0.13 km west of the application area in an adjacent remnant.

Noting the composition and condition of the vegetation proposed to be cleared, it is unlikely to be representative of this PEC. However, there is potential that the proposed clearing activities could result in the introduction or spread of weeds into adjacent vegetation, which could impact on the nearest occurrence of the PEC.

Conclusion

From the above, it is considered that the proposed clearing is unlikely to have any direct impacts on conservation significant flora and ecological communities.

As set out under section 3.2.1, it is considered that impacts to adjacent vegetation can be managed to be environmentally acceptable by requiring the applicant to take steps to minimise the risk of the introduction and spread of weeds. This will be required as a condition on the clearing permit.

3.2.3 Land and water resources

Assessment

A minor, non-perennial watercourse is mapped within the application area. The vegetation proposed to be cleared is growing in association with this watercourse. Noting the condition of the vegetation proposed to be cleared, impacts to the environmental values of this watercourse are expected to be minimal.

The primary land degradation risks associated with the soil types mapped across the application area are moderate to high/very high risks of salinity and waterlogging (across approximately 96 per cent of the application area), and to a lesser extent phosphorus export and wind erosion. Noting that the vegetation proposed to be cleared comprises scattered regrowth within a previously cleared area, it is considered that the proposed clearing is unlikely to increase the risks of land degradation beyond any existing risks.

However, noting the risk of wind erosion, the potential for an increase in surface water run-off has the potential to lead to mobilisation of sediments which may deteriorate the quality of surface water. The proposed clearing is to enhance surface water runoff into dams, and it is expected that any transported sediments will settle in the dams rather than travel further downstream. On this basis, impacts to surface water quality are expected to be minimal.

Conclusion

From the above, it is considered that the proposed clearing is unlikely to impact on the environmental values of a watercourse, or cause appreciable land degradation or deterioration in water quality. No clearing permit conditions are necessary in relation to these matters.

3.3 Relevant planning instruments and other matters

The application area is located within a Crown reserve of approximately 491 ha in area, which is largely vegetated except for approximately 86 hectares that from available aerial imagery appears to have previously been cleared (and within which the application area is located). This reserve is for the purpose of 'water' and the responsible agency stated on the certificate of title is the Water Corporation. The applicant has a lease arrangement with the Water Corporation in relation to the use of the land for dams and a catchment.

No registered Aboriginal sites of significance are mapped within the application area. The nearest registered site is an Aboriginal Heritage Place known as 'Lake Biddy', located approximately 1.7 km from the application area, separated by cleared farmland, some remnant vegetation and a road reserve. Given the separation distance, the proposed clearing is unlikely to impact on this site. In any event, 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.

Appendix A – Site characteristics

The information below are the findings of a desktop assessment based on the best information available to the Department of Water and Environment Regulation (DWER) at the time of this assessment, and described the key characteristics of the application area. This information was used to inform the assessment of the clearing against the clearing principles (see Appendix B).

Site characteristics

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Local context</td><td>The application area has previously been cleared and is located between two areas of remnant vegetation. The local area considered in the assessment of this application is defined as a 20 kilometre (km) radius from the perimeter of the application area, and retains approximately 19.70 per cent of native vegetation cover.</td></tr>
<tr><td>Vegetation description</td><td>The application area is mapped as:
Vegetation Association 519, described as: Shrublands; mallee scrub, tall sand mallee (Eucalyptus eremophila).
Vegetation composition was determined from available aerial imagery and supporting information (photographs) provided by the applicant. The vegetation proposed to be cleared comprises largely of scattered regrowth mallee and shrubs within a previously-cleared area, with the exception of three portions with a combined total of approximately 0.8 hectares (ha) that are mapped as remnant vegetation.</td></tr>
<tr><td>Vegetation condition</td><td>Vegetation condition was determined from available aerial imagery and photographs provided by the applicant. The vegetation is considered to be predominantly in degraded to completed degraded condition on the scale described by Keighery (1994) (see Appendix C), with approximately 0.8 ha in three areas considered to be in good to degraded condition.</td></tr>
<tr><td>Soil description</td><td>The application area is mapped as:
Sharpe 2 Subsystem (250Sh_2), described as: Level to very gently inclined plains, including some very gently inclined valley slopes; alkaline grey shallow sandy duplex soils, calcareous loamy earths, salt lake soils, pale deep sands and yellow/brown sandy duplex soils (mapped across approximately 42.9 ha of the application area)
Newdegate 2 Subsystem (250Nw_2), described as: Lower to upper slopes, broad crests and upland plains; soils are mainly grey and yellow/brown sandy duplex soils, often alkaline with hard-setting surfaces, and duplex sandy gravels (mapped across approximately 1.85 ha of the application area).</td></tr>
<tr><td>Land degradation risk</td><td>Mapped land degradation risk factors (as percentage of map unit)
<table>
<tr><th>Risk categories</th><th>250Sh_2</th><th>250Nw_2</th></tr>
<tr><td>Wind erosion</td><td>10-30% has a high to extreme risk</td><td>30-50% has a high to extreme risk</td></tr>
<tr><td>Water erosion</td><td><3% has a high to extreme risk</td><td><3% has a high to extreme risk</td></tr>
<tr><td>Salinity</td><td>>70% has a moderate to high risk</td><td>3-10% has a moderate to high risk</td></tr>
<tr><td>Subsurface acidification</td><td>10-30% has a high risk</td><td>30-50% has a high risk</td></tr>
<tr><td>Flooding</td><td><3% has a moderate to high risk</td><td><3% has a moderate to high risk</td></tr>
<tr><td>Waterlogging</td><td>>70% has a moderate to very high risk</td><td><3% has a moderate to very high risk</td></tr>
<tr><td>Phosphorus export</td><td>30-50% has a high to extreme risk</td><td><3% has a high to extreme risk</td></tr>
</table></td></tr>
<tr><td>Waterbodies</td><td>Seventy-nine watercourses have been mapped in the local area, including one within the application area. Those within 4 km of the application area are outlined below.
<table>
<tr><th>Type of inland water</th><th>Description</th><th>Proximity (m)</th></tr>
<tr><td>Hydrography, linear</td><td>Watercourse - minor, non-perennial</td><td>0</td></tr>
</table></td></tr>
</table>

Characteristic	Details
	<table><tr><td>Geomorphic Wetlands Wheatbelt</td><td>- Not defined</td><td>1817</td></tr><tr><td>Geomorphic Wetlands Wheatbelt</td><td>- Lake</td><td>1920</td></tr><tr><td>Rivers</td><td>Lake Biddy : Significant Stream</td><td>1953</td></tr><tr><td>Geodata, Lakes</td><td>lake</td><td>2129</td></tr><tr><td>Hydrography, Lakes (medium scale 250k GA)</td><td>lake</td><td>2129</td></tr><tr><td>Geomorphic Wetlands Wheatbelt</td><td>Salt_Lockhart_AA07 - Subject to inundation</td><td>2674</td></tr><tr><td>Rivers</td><td>: Major Trib</td><td>2806</td></tr><tr><td>Rivers</td><td>Lake Biddy : Major Trib</td><td>2983</td></tr><tr><td>Geomorphic Wetlands Wheatbelt</td><td>Salt_Lockhart_AA07_a1 - Subject to inundation</td><td>3178</td></tr><tr><td>Rivers</td><td>Lake Tunney : Major River</td><td>3597</td></tr><tr><td>Geodata, Lakes</td><td>sub_to_inund</td><td>3711</td></tr><tr><td>Hydrography, Lakes (medium scale 250k GA)</td><td>sub_to_inund</td><td>3711</td></tr></table>
Conservation areas	Fifteen conservation areas are mapped in the local area, comprising lands managed by the Department of Biodiversity, Conservation and Attractions (DBCA) and privately managed conservation areas. Those within 4 km of the application area are outlined below. <table><tr><th>Theme</th><th>Description</th><th>Proximity (m)</th></tr><tr><td>DBCA Managed Lands</td><td>Lake Biddy Nature Reserve, Conservation Commission Of WA</td><td>2668</td></tr></table>
Climate and landform	Rainfall: 400 Evapotranspiration: 400 Geology: Granite and gneiss Acid Sulfate Soil Risk: No Groundwater Salinity (Total Dissolved Solids): >35,000 mg/L. The application area is situated approximately 310 metres above sea level.
Hydrology and hydrogeology	The application area is within the ‘South East Zone of Ancient Drainage’ hydrological zone, and the ‘Swan-Avon Lockhart’ hydrographic catchment.

Flora, fauna and ecosystem analysis

Ecological Linkages: No mapped significant ecological linkages occur in the local area.

The following conservation significant species have been recorded from the local area. With consideration for the site characteristics set out above, relevant datasets (see Appendix E), and photographs provided by the applicant (see Appendix D), the likelihood of these species occurring within the application area has been assessed.

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Fauna					
Peregrine Falcon (*Falco peregrinus*; Other Specially Protected)	Approximately 2.9 km			Y	N/a
Flora					
Synaphea cervifolia (Priority 2)	Approximately 1.6 Km	Y	N		N/a

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Thysanotus lavanduliflorus (Priority 1)	Approximately 1.8 km	Y	N		N/a
Gastrolobium euryphyllum (Priority 1)	Approximately 2.3 Km	Y	N		N/a
Verticordia staminosa var. *erecta* (Threatened)	Approximately 2.6 Km	Y	N		N/a
Bentleya spinescens (Priority 4)	Approximately 3.1 km	Y	N		N/a

Vegetation extent

	Pre-European (ha)	Current extent (ha)	Current extent (%)	Current extent (ha) in DBCA[2]-managed lands	Current extent (%) in DBCA-managed lands
IBRA[3] bioregion (as at March 2019)[4]					
Mallee	7,395,894.36	4,180,937.68	17.41	1,333,257.35	18.03
Vegetation Association in bioregion (as at March 2019)[5]					
519	2,100,313.59	1,248,661.16	59.45	227,798.90	10.85
Local area					
20-kilometre radius	131,221.25	25,858.64	19.70	N/a	N/a

[2] Current extent as proportion of pre-European extent within DBCA-managed lands.
[3] Interim Biogeographic Regionalisation for Australia.
[4] Government of Western Australia (2019b)
[5] Government of Western Australia (2019b)

Appendix B – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Principle (a): "*Native vegetation should not be cleared if it comprises a high level of biodiversity*."[6] Assessment: The application area may be utilised by indigenous fauna (including conservation significant fauna) for moving between adjacent remnants, however, is unlikely to include any conservation significant flora or ecological communities mapped in the local area. Noting the condition of the vegetation proposed to be cleared, the application area is unlikely to comprise a high level of biological diversity.	Not likely to be at variance	Yes Sections 3.2.1 and 3.2.2
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: Noting the condition of the vegetation proposed to be cleared, the application area is unlikely to be significant for the survival of indigenous fauna or be necessary for the maintenance of significant habitat. With regard for this, and the absence of thickets, shrublands, dense understorey, and aquatic habitats within the application area, the application area is unlikely to be utilised by conservation significant fauna recorded in the local area other than potentially to move between remnants adjacent to the application area.	Not likely to be at variance	Yes Section 3.2.1
Principle (c): "*Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora*." Assessment: Noting the condition of the vegetation proposed to be cleared, the application area is unlikely to include any threatened flora.	Not likely to be at variance	Yes Section 3.2.2
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*."[7] Assessment: No ecological communities listed as threatened under the BC Act have been recorded in the local area.	Not likely to be at variance	No
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 national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The mapped Vegetation Association retains more than 30 per cent of its pre-European extent within the bioregion. While the overall extent of vegetation within the local area is below the 30 per cent threshold, the vegetation proposed to be cleared is unlikely to comprise habitat for threatened fauna, is not mapped as a significant ecological linkage, is unlikely to be required to maintain ecosystem services (such as hydrological processes) or compensate for a high degree of fragmentation, and is unlikely to be biologically diverse.	Not likely to be at variance	No
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: A minor, non-perennial watercourse is mapped within the application area, and the vegetation proposed to be cleared is growing in association with this watercourse. Noting the condition of the vegetation	Is at variance	Yes Section 3.2.3

[6] The *Biodiversity Conservation Act 2016* defines 'biodiversity' as 'the variability among living organisms and the ecosystems of which those organisms are a part and includes the following – (a) diversity within native species and between native species; (b) diversity of ecosystems; (c) diversity of other biodiversity components'.

[7] The *Biodiversity Conservation Act 2016* defines 'threatened ecological community' as 'an ecological community that – (a) is listed as a threatened ecological community under section 27(1); or (b) is to be regarded as a threatened ecological community under section 33'. Section 27(1) refers to TECs listed by the WA Minister for Environment; section 33 refers to the listing and de-listing of collapsed TECs.

Assessment against the Clearing Principles	Variance level	Is further consideration required?
proposed to be cleared, impacts to the environmental values of this watercourse are expected to be minimal.		
Principle (g): "*Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation*." Assessment: The main land degradation risks associated with the soil types mapped across the application area are moderate to high/very high risks of salinity and waterlogging (across approximately 96 per cent of the application area), and to a lesser extent phosphorus export and wind erosion. Noting that the vegetation proposed to be cleared comprises scattered regrowth within a previously cleared area, it is considered that the proposed clearing is unlikely to increase the risks of land degradation beyond any existing risks.	Not likely to be at variance	Yes Section 3.2.3
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: The nearest conservation area is Lake Biddy Nature Reserve, located approximately 2.6 km from the application area. This conservation area is separated from the application area by cleared farmland. Noting this, the proposed clearing is unlikely to impact on the environmental values of this conservation area.	Not likely to be at variance	No
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: Noting the risk of wind erosion associated with the mapped soil type, the potential for an increase in surface water run-off has the potential to lead to mobilisation of sediments. Noting the purpose of the proposed clearing, impacts to surface water quality are expected to be minimal and contained within the application area. Taking into account the topography and the underlying groundwater salinity, the proposed clearing is unlikely to cause deterioration in underground water quality.	Not likely to be at variance	Yes Section 3.2.3
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 soil types mapped within the application area has a low flood risk.	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.

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 – Photographs of the vegetation

Photographs of the application area provided by the applicant

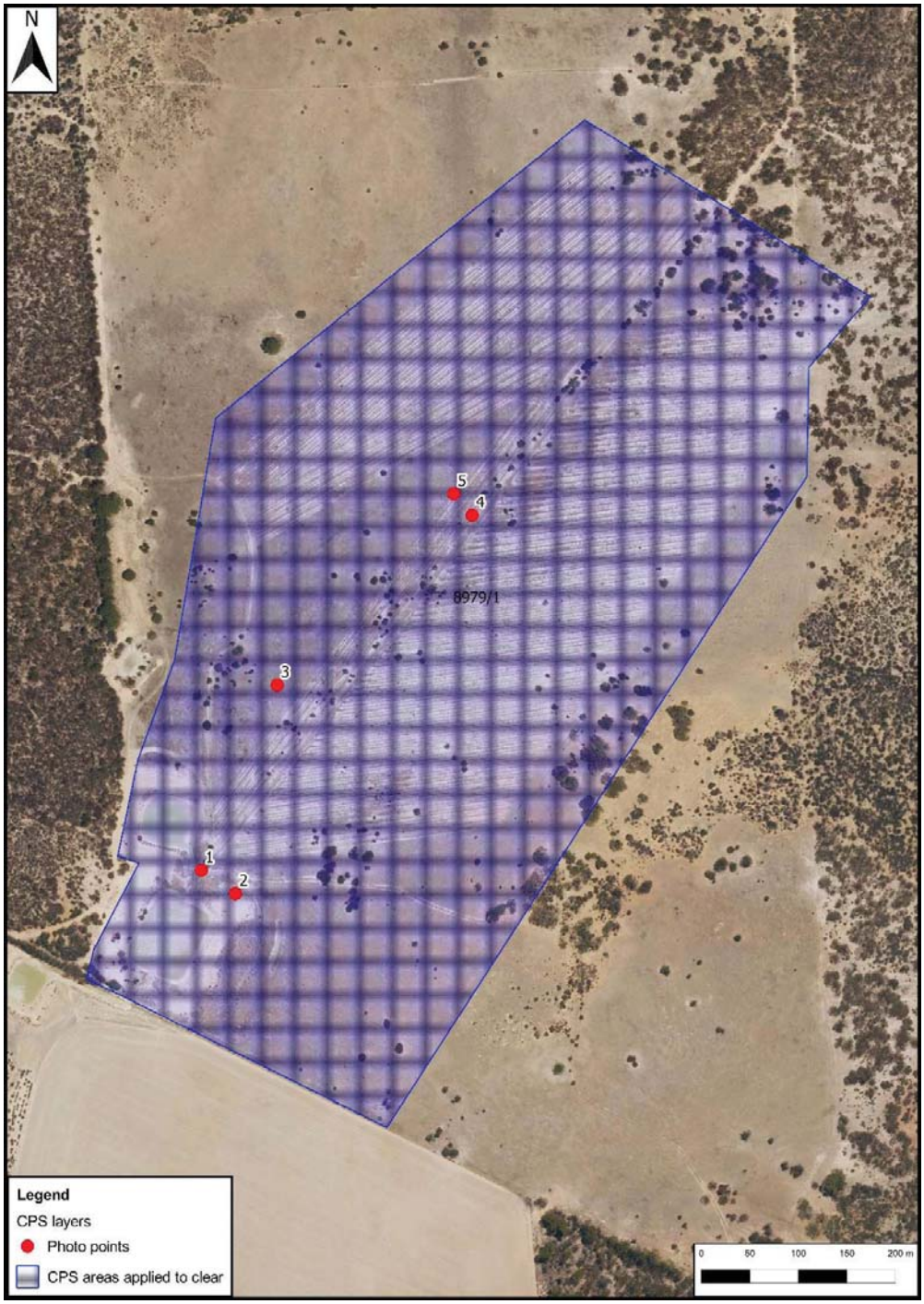

Photo point 1

Photo point 2a

Photo point 2b

Photo point 3a

Photo point 3b

Photo point 4

Photo point 5a

Photo point 5b

Appendix E – References and databases

GIS datasets

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Consanguineous Wetlands Suites (DBCA-020)
- 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)
- 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)
- Remnant Vegetation, All Areas
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- RIWI Act, Groundwater Areas (DWER-034)
- 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

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Department of Primary Industries and Regional Development (2017) *NRInfo Digital Mapping*. Available at: https://maps.agric.wa.gov.au/nrm-info/ (accessed June 2020).

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