GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6800/2
Permit Holder:	Commissioner of Main Roads Western Australia
Duration of Permit:	30 July 2016 – 30 July 2041

ADVICE NOTE
The funds referred to in condition 9 of this permit are intended for contributing towards the purchase of 261 hectares of native vegetation with similar environmental values containing Carnaby's cockatoo, red-tailed phascogale and threatened ecological community habitat within the Avon Wheatbelt Bioregion.

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 road widening.

2. Land on which clearing is to be done
LOT 30 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 300 ON PLAN 61669, KAURING
LOT 29 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 29644 ON PLAN 253933 (CROWN RESERVE 2570), KAURING
LOT 28 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 2877 ON PLAN 101729, EAST BEVERLEY
LOT 27 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 27 ON PLAN 184274 (CROWN RESERVE 37147), KAURING
LOT 2533 ON PLAN 100222, EAST BEVERLEY
LOT 23 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 22 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 22321 ON PLAN 142981, KAURING
LOT 22037 ON PLAN 142634, GILGERING
LOT 21 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 21112 ON PLAN 253113, EAST BEVERLEY
LOT 20 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 1 ON PLAN 12731, EAST BEVERLEY
LOT 1 ON DIAGRAM 2738, GREENHILLS
LOT 19 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 1971 ON PLAN 251700, GREENHILLS
LOT 1793 ON PLAN 248792, KAURING
LOT 10991 ON PLAN 252293, KAURING
LOT 10635 ON PLAN 251715, KAURING
LOT 10586 ON PLAN 128235, EAST BEVERLEY
LOT 10439 ON PLAN 126759, EAST BEVERLEY
LOT 101 ON PLAN 300173, KAURING
LOT 101 ON DIAGRAM 68429, KAURING
LOT 100 ON PLAN 300173, KAURING

ROAD RESERVE (PIN 11661058), DULBELLING
UNALLOCATED CROWN LAND (PIN 11651251), DULBELLING
ROAD RESERVE (PIN 1359684), DULBELLING
ROAD RESERVE (PIN 1359824), EAST BEVERLEY
ROAD RESERVE (PIN 1359823), EAST BEVERLEY
ROAD RESERVE (PIN 1290747), EAST BEVERLEY
RAILWAY RESERVE (PIN 977677), DULBELLING
ROAD RESERVE (PIN 1359775), EAST BEVERLEY
ROAD RESERVE (PIN 1290742), EAST BEVERLEY
ROAD RESERVE (PIN 1359776), EAST BEVERLEY
ROAD RESERVE (PIN 1359771), EAST BEVERLEY
ROAD RESERVE (PIN 1290743), EAST BEVERLEY
ROAD RESERVE (PIN 1290746), EAST BEVERLEY
ROAD RESERVE (PIN 1290745), EAST BEVERLEY
ROAD RESERVE (PIN 11744714), EAST BEVERLEY
ROAD RESERVE (PIN 1359774), EAST BEVERLEY
ROAD RESERVE (PIN 1359772), EAST BEVERLEY
ROAD RESERVE (PIN 1359773), EAST BEVERLEY
ROAD RESERVE (PIN 1359767), EAST BEVERLEY
ROAD RESERVE (PIN 1359778), BALKULING
ROAD RESERVE (PIN 1359766), EAST BEVERLEY
ROAD RESERVE (PIN 1359764), EAST BEVERLEY
ROAD RESERVE (PIN 1359765), EAST BEVERLEY
ROAD RESERVE (PIN 1359763), EAST BEVERLEY
ROAD RESERVE (PIN 1359760), EAST BEVERLEY
ROAD RESERVE (PIN 1359762), EAST BEVERLEY
ROAD RESERVE (PIN 1359751), EAST BEVERLEY
RAILWAY RESERVE (PIN 977594), KAURING
ROAD RESERVE (PIN 1359750), EAST BEVERLEY
ROAD RESERVE (PIN 1359745), KAURING
ROAD RESERVE (PIN 1359744), KAURING
ROAD RESERVE (PIN 1359742), KAURING
ROAD RESERVE (PIN 1255099), KAURING
ROAD RESERVE (PIN 1359743), KAURING
ROAD RESERVE (PIN 1255098), KAURING
ROAD RESERVE (PIN 1255096), KAURING
ROAD RESERVE (PIN 1359696), KAURING
ROAD RESERVE (PIN 1359697), KAURING
UNALLOCATED CROWN LAND (PIN 675473), KAURING
ROAD RESERVE (PIN 1359687), KAURING
ROAD RESERVE (PIN 1359695), KAURING
ROAD RESERVE (PIN 11406903), KAURING
ROAD RESERVE (PIN 1359685), KAURING
ROAD RESERVE (PIN 11406902), GREENHILLS
RAILWAY RESERVE (PIN 451360), KAURING
ROAD RESERVE (PIN 1359838), GREENHILLS
ROAD RESERVE (PIN 11427181), GREENHILLS
ROAD RESERVE (PIN 11427179), GREENHILLS
ROAD RESERVE (PIN 11427182), KAURING
DEPOSITED PLAN 49563 (PIN 11533058), KAURING
DEPOSITED PLAN 49564 (PIN 11535124), KAURING
LOT 90 ON PLAN 32332, KAURING
LOT 8 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 8965 ON PLAN 123514, EAST BEVERLEY
LOT 8344 ON PLAN 121672, EAST BEVERLEY
DEPOSITED PLAN 59021 (PIN 11738289), EAST BEVERLEY
LOT 7 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 71 ON PLAN 300187, GREENHILLS

LOT 70 ON PLAN 5921, KAURING
LOT 70 ON PLAN 5921, GREENHILLS
LOT 704 ON PLAN 245304, KAURING
LOT 6 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 6735 ON PLAN 118591, EAST BEVERLEY
LOT 6680 ON PLAN 253121, EAST BEVERLEY
LOT 6163 ON PLAN 114146, EAST BEVERLEY
LOT 5 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 59 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 57 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 56 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 55 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 556 ON DIAGRAM 95114, KAURING
LOT 555 ON DIAGRAM 95114, KAURING
LOT 54 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 53 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 51 ON PLAN 19318, KAURING
LOT 4900 ON PLAN 111085, KAURING
LOT 699 ON DEPOSITED PLAN 416435, KAURING
LOT 698 ON DEPOSITED PLAN 416436, KAURING
LOT 697 ON DEPOSITED PLAN 416437, KAURING
LOT 695 ON DEPOSITED PLAN 416439, KAURING
LOT 48 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 47 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 46 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 45 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 44 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 43 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 42 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 41 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 4149 ON PLAN 111093, DULBELLING
LOT 40 ON PLAN 228706, EAST BEVERLEY
LOT 3 ON PLAN 60263, EAST BEVERLEY
LOT 38 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 37 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 36 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 351 ON PLAN 66254 (CROWN RESERVE 15812), KAURING
LOT 350 ON PLAN 66254 (CROWN RESERVE 22961), KAURING
LOT 33 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 3392 ON PLAN 103463, EAST BEVERLEY
LOT 32 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 3235 ON PLAN 102572, EAST BEVERLEY
LOT 31 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 17361 ON PLAN 252291, KAURING
LOT 16908 ON PLAN 253330, KAURING
LOT 150 ON DIAGRAM 95848, KAURING
LOT 599 ON DEPOSITED PLAN 412322, DULBELLING

3. Area of Clearing

The Permit Holder must not clear more than 31.41 hectares of native vegetation within the area shaded yellow on attached Plan 6800/2a, Plan 6800/2b, and Plan 6800/2c.

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 project 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 project activities under the *Main Roads Act 1930* or any other written law.

6. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 30 July 2031.

PART II –MANAGEMENT CONDITIONS

7. Avoid, minimize, and reduce impacts and extent of clearing

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

(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.

8. 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 *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.

9. Monetary contributions to a fund maintained for the purpose of establishing or maintaining vegetation (offset)

Prior to undertaking any clearing authorised under this Permit and no later than 30 October 2016, the Permit Holder shall provide documentary evidence to the CEO that funding of $368,271 has been transferred to the Department of Water and Environmental Regulation for the purpose of establishing or maintaining native vegetation.

10. Fauna management – Carnaby's black cockatoo breeding habitat

(a) Within 72 hours prior to undertaking any clearing of *black cockatoo habitat tree/s* identified in the Report 'Main Roads Western Australia - York to Merredin Road Widening SLK 0-15, SLK 19-29 and SLK 29-51 Biological Assessment (GHD, 2014)', the permit holder must engage a *fauna specialist* to inspect all *black cockatoo habitat tree/s* proposed to be cleared for *evidence* of current breeding use by Carnaby's black cockatoo (*Calyptorhynchus latirostris*).
(b) Where a *black cockatoo habitat tree* with no *evidence* of current use by Carnaby's black cockatoo is identified in accordance with condition 10(a), that tree must only be cleared within 72 hours after the inspection.
(c) Where a *black cockatoo habitat tree* is identified under condition 10(b), and that tree shows *evidence* of current breeding use by Carnaby's black cockatoo under condition 10(a), and clearing of that tree cannot be avoided, that tree must be monitored by a *fauna specialist* to determine when it is no longer in use for that breeding season.
(d) Any *black cockatoo breeding tree* with *evidence* of current breeding use by Carnaby's black cockatoo must not be cleared whilst it is in use for that breeding season as determined by the *fauna specialist* under condition 10(c).
(e) Where nest hollow/s with *evidence* of current breeding use by Carnaby's black cockatoo are identified in a *black cockatoo habitat tree*, the permit holder must install an artificial black cockatoo nest hollow for every hollow with *evidence* of current breeding use identified in a *black cockatoo habitat tree* that is cleared.
(f) Each artificial black cockatoo nesting hollow required by condition 10(e) must be installed prior to commencement of the next black cockatoo breeding season following clearing of the related *black cockatoo habitat tree/s.*
(g) The artificial black cockatoo nest hollow/s required by condition 10(e) of this permit must:

(i) be installed in consultation with, and on land vested with, the Department of Biodiversity, Conservation and Attractions;
(ii) be designed and placed in accordance with the specifications detailed in Schedule 1; and
(iii) be monitored and maintained in accordance with the specifications detailed in Schedule 2, for a period of at least ten years.

(h) Within two months of clearing authorised under this permit within the combined areas cross-hatched yellow on attached Plan 6800/2a, Plan 6800/2b, and Plan 6800/2c, the permit holder must provide the results of the *fauna inspection* in a report to the *CEO*.

(i) The *fauna inspection* report must include the following;
(i) the location of the *black cockatoo habitat tree/s* 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;
(ii) the number and location of any Carnaby's black cockatoo individuals if recorded, using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
(iii) whether the *black cockatoo habitat tree/s* identified contain suitable nest hollows/s and show current or past use by Carnaby's black cockatoo;
(iv) the methodology, used to inspect the permit area;
(v) a photo of the *black cockatoo habitat tree/s* identified; and
(vi) a description and condition of the *black cockatoo habitat tree/s* identified.

11. Fauna management – red-tailed phascogale

(a) Within 72 hours prior to undertaking any clearing of *red-tailed phascogale habitat trees* identified as hollow bearing trees in the Report 'Main Roads Western Australia - York to Merredin Road Widening SLK 0-15, SLK 19-29 and SLK 29-51 Biological Assessment (GHD, 2014)', the Permit Holder must engage a *fauna specialist* to identify and inspect all *red-tailed phascogale habitat trees* proposed to be cleared for *evidence* of use by red-tailed phascogale (*Phascogale calura*).

(b) Where a *red-tailed phascogale habitat tree* occupied by red-tailed phascogale is identified and cannot be avoided in accordance with condition 11(a), that tree may only be cleared:
(i) immediately after relocation of the red-tailed phascogale individual/s by a *fauna specialist* to a *suitable habitat* outside of the clearing area, in accordance with a fauna licence issued pursuant to Regulation 28 of the *Biodiversity Conservation Regulations 2018*; or
(ii) immediately after a repeat inspection undertaken by a *fauna specialist* if that inspection confirms it is no longer occupied by red-tailed phascogale.

(c) Where a *red-tailed phascogale habitat tree* with *evidence* of use (but not occupied) by red-tailed phascogale is identified and cannot be avoided in accordance with condition 11(a), that tree shall only be cleared:
(i) within 72 hours after the inspection; or
(ii) within 72 hours after a repeat inspection undertaken by a *fauna specialist* if that inspection confirms it is not occupied by red-tailed phascogale.

(d) Within two months of undertaking any clearing authorised under this permit within the combined areas hatched yellow on attached Plan 6800/2a, Plan 6800/2b, and Plan 6800/2c, the Permit Holder must provide the results of the *fauna inspection* in a report to the *CEO*.

(e) The *fauna inspection* report must include the following;
(i) the location of the *red-tailed phascogale habitat tree/s* 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;
(ii) the number and location of any red-tailed phascogale, if identified, recorded using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
(iii) if the *red-tailed phascogale habitat tree/s* identified show *evidence* of current use by red-tailed phascogale;
(iv) the methodology, used to inspect the permit area;
(v) a description of the *red-tailed phascogale habitat tree/s* identified;
(vi) the time and date each red-tailed phascogale individual was relocated by a fauna specialist;

(vii) the location where each red-tailed phascogale individual was relocated to, recorded using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
(viii) the time and date each *red-tailed phascogale habitat tree* with *evidence* of use was cleared.

12. Flora management

(a) Prior to undertaking any clearing authorised under this Permit, within the combined areas cross-hatched yellow on attached Plan 6800/2a, Plan 6800/2b, and Plan 6800/2c, the Permit Holder must engage a *botanist* to conduct a *targeted flora survey* of the permit area for the presence of *threatened flora* listed under the *Biodiversity Conservation Act 2016* and *priority flora*.

(b) Where *threatened flora* is identified under condition 12(a), the Permit Holder must demarcate all individuals recorded and must not cause or allow:
(i) clearing within 50 metres of the identified *threatened flora*, and
(ii) clearing of the identified *threatened flora*,
unless first approved by the *CEO*.

(c) Where *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) is identified under condition 12(a), the Permit Holder must demarcate all individuals recorded and must not cause or allow:
(i) clearing within 1.5 metres of the known individuals as identified in the Report 'Main Roads Western Australia - York to Merredin Road Widening SLK 0-15, SLK 19-29 and SLK 29-51 Biological Assessment (GHD, 2014)',
(ii) clearing within 20 metres of any new individuals identified during the pre-clearance survey under condition 12(a), and
(iii) clearing of any individuals of *Eremophila glabra* subsp. York (P.G. Wilson 12172 B),
unless first approved by the *CEO*.

(d) Where other *priority 1 and 2 flora* are identified under condition 12(a), the Permit Holder must demarcate all individuals recorded and must not cause or allow:
(i) clearing within 20 metres of the identified *priority 1 and 2 flora*, and
(ii) clearing of the identified *priority 1 and 2 flora*,
unless first approved by the *CEO*.

(e) Where *threatened flora* are identified under condition 12(a) and cannot be avoided as per conditions 12(b), the Permit Holder must ensure no clearing of the identified *threatened flora* occurs without the relevant flora license/s obtained under the *Biodiversity Conservation Act 2016*.

(f) Where *priority 3 and 4 flora* are identified under condition 12(a), the Permit Holder must demarcate all individuals recorded and:
(i) must not cause or allow clearing of more than 50 percent of the population of the identified *priority 3 or 4 flora,* and
(ii) prior to clearing, map the population of the identified *priority 3 and 4 flora* that is not to be cleared under condition 12(f)(i),
unless first approved by the *CEO*.

(g) Within two months of undertaking any clearing authorised under this Permit within the combined areas cross-hatched yellow on attached Plan 6800/2a, Plan 6800/2b, and Plan 6800/2c, the Permit Holder must provide the results of the *targeted flora survey* in a report to the *CEO*.

(h) If any *threatened flora* or *priority flora* are identified within the areas cross-hatched yellow on attached Plan 6800/2a, Plan 6800/2b, and Plan 6800/2c, the *targeted flora survey* report must include the following:
(i) the location of each *threatened flora* and *priority flora*, identified under condition 12(a), either as the location of individual plants, or where this is not practical, the areal extent of the population and an estimate of the number of plants, 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;
(ii) the species name of each *threatened flora* and *priority flora* species identified under condition 12(a);
(iii) map/s showing the location of any identified population of *priority 3 or 4 flora* cleared and the remaining population; and
(iv) the methodology used to survey the permit area.

PART III - RECORD KEEPING AND REPORTING

13. Records must 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 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;
  (ii) the date that the area was cleared; and
  (iii) the size of the area cleared (in hectares).

(b) In relation to Carnaby's black cockatoo fauna management pursuant to condition 10 of this Permit:
  (i) the time/s and date/s of inspection/s of the suitable *black cockatoo habitat tree/s* by the *fauna specialist*;
  (ii) a description of the inspection methodology employed by the *fauna specialist*;
  (iii) the species name of any fauna determined by the *fauna specialist* to be occupying the suitable *black cockatoo habitat tree*;
  (iv) where the suitable *black cockatoo habitat tree* is determined by the *fauna specialist* to be occupied by Carnaby's black cockatoo:
    (A) the time and date that it was determined to be no longer occupied; and
    (B) a description of the evidence by which it was determined to be no longer occupied; and
  (v) the time and date that the suitable *black cockatoo habitat tree* was cleared.

(c) In relation to the installation of artificial black cockatoo nest hollows pursuant to conditions 10(e)-(g) of this Permit:
  (i) the date that each artificial black cockatoo nest hollow was installed;
  (ii) the location where each artificial black cockatoo nest hollow was installed recorded using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  (iii) a photo of each installed artificial black cockatoo nest hollow;
  (iv) the dates each artificial black cockatoo nest hollow installed was monitored;
  (v) a description of the monitoring methods employed for each artificial black cockatoo nest hollow installed;
  (vi) a description of the monitoring observations for each artificial black cockatoo nest hollow installed;
  (vii) the date/s each artificial black cockatoo nest hollow installed was maintained;
  (viii) a description of the maintenance activities undertaken for each artificial black cockatoo nest hollow installed; and
  (ix) the total number of artificial hollows installed.

(d) In relation to red-tailed phascogale fauna management pursuant to condition 11 of this Permit:
  (i) the time/s and date/s of inspections of the *red-tailed phascogale habitat tree/s* by the *fauna specialist*;
  (ii) a description of the inspection methodology employed by the *fauna specialist*;
  (iii) the species name of any fauna determined by the *fauna specialist* to be occupying the *red-tailed phascogale habitat tree/s*;
  (iv) where the *red-tailed phascogale habitat tree* is determined to be occupied or to exhibit *evidence* of use by red-tailed phascogale:
    (A) the time and date that it was determined to be no longer occupied; and
    (B) a description of the evidence by which it was determined to be no longer occupied; and
  (v) the time and date that the *red-tailed phascogale habitat tree* was cleared.

(e) In relation to flora management pursuant to condition 12 of this Permit:
  (i) actions taken to demarcate each *threatened flora* and/or *priority flora* species recorded and their relevant *buffers*; and
  (ii) actions taken to avoid the clearing of *threatened flora* and/or *priority flora* species and their *buffers* where applicable.

14. Reporting

(a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report containing:
   (i) the records required to be kept under condition 13 of this Permit; and
   (ii) records of activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.

(b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.

(c) Prior to 30 June 2021, the Permit Holder must provide to the *CEO* a written report of records required under condition 13 of this Permit where these records have not already been provided under condition 14(a) of this Permit.

DEFINITIONS

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

black cockatoo breeding tree/s means *black cockatoo habitat trees* that exhibit *evidence* of current or past breeding use by *black cockatoo species*;

black cockatoo habitat tree/s means trees that have a diameter, measured at 130 centimetres from the base of the tree, of 50 centimetres or greater (or 30 centimetres or greater for *Eucalyptus salmonophloia* or *Eucalyptus wandoo*) that contain hollows suitable for breeding by *black cockatoo species*;

botanist means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of two (2) years work experience in Western Australian flora identification and undertaking flora surveys native to the bioregion being inspected or surveyed, or who is approved by the *CEO* as a suitable environmental specialist for the bioregion, and who holds a valid flora licence issued under the *Biodiversity Conservation Act 2016*;

buffers means 50 metres for *threatened flora* and 20 metres for *priority flora*;

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

evidence means showing chew marks or scratchings on the habitat tree representative of the species being surveyed, the presence of the species entering or leaving the habitat tree, and/or the presence of chicks/young;

fauna specialist means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of two (2) years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the *CEO* as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*;

fauna survey means a field-based investigation, including a review of established literature, of the biodiversity of fauna and/or fauna habitat of the permit area and where conservation significant fauna are identified in the permit area, also includes a fauna survey of surrounding areas to place the permit area into local context;

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;

priority flora means those plant taxa described as priority flora classes 1, 2, 3, or 4 in the Department of Biodiversity, Conservation and Attractions *Threatened and Priority Flora List for Western Australia* (as amended from time to time);

priority 1 and 2 flora means those plant taxa associated with that specific priority flora classification;

priority 3 and 4 flora means those plant taxa associated with that specific priority flora classification;

red-tailed phascogale habitat tree/s means a tree of the *Eucalyptus* genus that contains a hollow/s suitable to be used by red-tailed phascogale (*Phascogale calura*);

suitable habitat means habitat known to support red-tailed phascogale (*Phascogale calura*) within the known current distribution of the species. This often includes wandoo (*Eucalyptus wandoo*) and sheoak (*Allocasuarina huegeliana*) woodlands with suitable nesting sites such as tree hollows, hollow logs and limbs, dead stags, and the skirts of grass trees (*Xanthorrhoea* spp.);

targeted flora survey means a field-based investigation, including a review of established literature, of the biodiversity of flora and vegetation of the permit area, focusing on habitat suitable for flora species that are being targeted and carried out during the optimal time to identify those species. Where target flora are identified in the permit area, the survey must also include a minimum of a 10 metre radius of the surrounding areas to place the permit area into local context;

threatened flora means those plant taxa listed as *threatened flora* under the Biodiversity Conservation Act 2016; and

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 Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

27 July 2021

Plan 6800/2a

Legend

- CPS areas approved to clear
- Land Tenure
- Local Government Authorities

Road Centrelines

- Main Roads
- Local Rd - Sealed

Image

N

1 : 60,000

0 1 2 3 4 km

MGA Zone 50
Geocentric Datum of Australia 1994

Meenu Vitarana
2021.07.27
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Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Plan 6800/2b

Legend

- CPS areas approved to clear
- Land Tenure
- Local Government Authorities

Road Centrelines

- Main Roads
- Local Rd - Sealed

Image

N

1 : 60,000

0 1 2 3 4 km

MGA Zone 50
Geocentric Datum of Australia 1994

Meenu Vitarana
2021.07.27
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Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Plan 6800/2c

117°9′30.240″E 117°11′26.880″E 117°13′23.520″E 117°15′20.160″E

31°57′59.501″S

31°59′45.272″S

32°1′31.044″S

32°3′16.816″S

117°9′30.240″E 117°11′26.880″E 117°13′23.520″E 117°15′20.160″E

Legend

- CPS areas approved to clear
- Land Tenure
- Local Government Authorities

Road Centrelines

- Main Roads
- Local Rd - Sealed

Image

N

1 : 60,000

0 1 2 3 4 km

MGA Zone 50
Geocentric Datum of Australia 1994

Meenu Vitarana
2021.07.27
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Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Schedule 1

How to design and place artificial hollows for Carnaby's cockatoo






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WATER CORPORATION

WESTERN AUSTRALIAN museum

How to design and place artificial hollows for Carnaby's cockatoo

Artificial hollows can be used to help conserve the threatened Carnaby's cockatoo by enabling the cockatoos to breed in areas where natural hollows are limited.

A wide variety of artificial hollow designs have been used with mixed success. Evidence suggests that, while the hollow must meet some basic requirements, other factors such as proximity to existing breeding areas may be more important in determining the success of artificial hollows. Before using this information sheet to construct or install an artificial hollow, you should refer to the criteria listed in the separate information sheet; *When to use artificial hollows for Carnaby's cockatoo*.

This information sheet contains broad guidelines for the design and placement of artificial hollows for Carnaby's cockatoo.

Below are three examples of successful artificial hollows used by Carnaby's cockatoo for nesting. Artificial hollows made from a natural log with cut side entrance (left), white industrial pipe with top entrance (centre) and natural log with natural side entrance (right).



Photos by Christine Groom (left and right) and Rick Dawson (centre)

Walls

The walls of the artificial hollow need to be constructed from a material that is;

- Durable enough to withstand exposure to elements for an extended period of time (i.e. 20+ years).
- Able to simulate the thermal properties of a natural tree hollow.
- Not less than 380 mm in internal diameter.
- Preferably 1.2 m deep overall and 1m deep to top of substrate/nesting material.

Successful artificial hollows have been constructed from sections of salvaged natural hollow, black and white industrial pipe. When using non-natural materials care must be taken to ensure there are no toxic residues and that the materials are safe to ingest.

Base

The base of the artificial hollow must be;

- Able to support the adult and nestling(s).
- Durable enough to last the life of the nest.
- Free draining.
- At least 380 mm in diameter.
- Covered with 200 mm of sterile, dry, free draining material such as charcoal, hardwood woodchips or wood debris.

  ***Do not use*:**

  - Saw dust or fibre products that will retain moisture.

Example materials that could be used for artificial hollow bases include heavy duty stainless steel, galvanised or treated metal (e.g. Zincalume ®), thick hardwood timber slab or marine ply (not chipboard or MDF). The base material must be cut to size to fit internally with sharp or rough edges ground away or curled inwards and fixed securely to the walls.

Carnaby's cockatoo eggs in an artificial hollow.
Photo by Rick Dawson

Entrance

The entrance of the artificial hollow must;

- Have a diameter of at least 270 mm).
- Preferably be top entry which will minimise use by non-target species.

Top entry hollows are unattractive to nest competitors such as feral bees, galahs and corellas. Side entry hollows have been successful in areas where feral bees are not a problem and where galahs and corellas are deterred.

Ladder

For artificial hollows made of non-natural materials, or of processed boards, it is necessary to provide a ladder to enable the birds to climb in and out of the hollow easily.

The ladder must be;

- Securely mounted to the inside of the hollow.
- Made from an open heavy wire mesh such as WeldMesh™ with mesh size of 30 - 50 mm, or heavy chain.

Do not use:

  - A material that the birds can chew.
  - Galvanized because the birds may grip or chew the ladder and ingest harmful compounds.

If using mesh for the ladder, the width will depend on the curvature of the nest walls. A minimum width of about 60 - 100 mm is recommended.

Sacrificial chewing posts

For artificial hollows made of non-natural materials, or of processed boards, it is necessary to provide sacrificial chewing posts. The birds chew material to prepare a dry base on which to lay their egg(s).

The sacrificial chewing posts must:

- Be made of untreated hardwood such as jarrah, marri or wandoo
- Be thick enough to satisfy the birds' needs between maintenance visits.
- Extend beyond the top of the hollow as an aid to see whether the nest is being used.
- Be placed on the inside of the hollow.
- Be attached in such a way that they are easy to replace e.g. hook over the top of hollow or can slide in/out of a pair of U bolts fitted to the side of the hollow.

It is recommended that at least two posts are provided. Posts 70 x 50 mm have been used, but require replacing at least every second breeding season when the nest is active. Birds do vary in their chewing habits and therefore the frequency at which the chewing posts require replacement will also vary.

Bottom of an artificial hollow showing ladder that is fixed to the wall and a chewed sacrificial post which is 200 mm from the floor.

Photo by Rick Dawson

Mountings

The artificial hollows must be mounted such that:

- The fixings used will last the duration of the nest e.g. galvanized bracket or chain fixed with galvanized coach screws.
- It is secured by more than one anchor for security and stability.
- It is positioned vertically or near vertically.

Placement

Sites should be chosen within current breeding areas and where they can be monitored, but preferably not conspicuous to the general public. It is important that artificial hollows are placed where they will be accessible for future monitoring and maintenance. For more detail refer to the separate information sheet; *When to use artificial hollows for Carnaby's cockatoo*.

The height at which artificial hollows should be placed is variable. The average height of natural hollows in dominant tree species in the area is a good guide. Natural hollows used by Carnaby's cockatoos have been recorded as low as 2 m above the ground. If located on private property the hollows can be placed lower to the ground so they are accessible by ladder or a rope and pulley system can be used. Where public access is possible artificial hollows should be placed at least 7 m high (i.e. higher than most ladders) and on the side of the tree away from public view to reduce the chance of interference or poaching.

Carnaby's cockatoo show no preference for aspect of natural hollows, however, it may still be beneficial to place artificial hollows facing away from prevailing weather and where they receive the most shade and protection.

Artificial hollows to be placed in trees require:

- Accessibility of the tree for a vehicle, elevated work platform or cherry picker.
- A section of trunk 2-3 m long suitable for attaching the hollow

If necessary, artificial hollows may be placed on poles, but this may result in excessive exposure to sun during very hot weather. When erected on poles there should be"

- A hinge at the bottom of the pole that can be secured when the pole is in the upright position.
- Access for a vehicle to assist raising the pole.

Safety

Care needs to be taken when placing artificial hollows to ensure safety is considered at all times. Artificial hollows are heavy and require lifting and manoeuvring into position up to 7 m above the ground.

Maintenance and monitoring

Once artificial hollows have been placed they require monitoring and maintenance to ensure they continue to be useful for nesting by Carnaby's cockatoo. It is important to monitor artificial hollows to determine use by Carnaby's cockatoo, other native species as well as pest species. By undertaking monitoring the success of the design and placement of artificial hollows can be determined and areas for improvement identified for future placement of artificial hollows.

Monitoring can also assess whether any maintenance is required. Without regular maintenance artificial hollows are unlikely to achieve their objective (that is, they will fail to provide nesting opportunities for threatened cockatoos). Therefore it is important to continue a regime of regular maintenance while the artificial hollow is required. It may be several (to many) decades until a natural replacement hollow is available.

For further advice on monitoring and maintenance of artificial hollows please refer to the separate information sheet; *How to monitor and maintain artificial hollows for Carnaby's cockatoo*.

Carnaby's cockatoo female prospecting an artificial hollow.
Photo by Rick Dawson

Example fixing for artificial hollow
Photo by Christine Groom

Acknowledgements

This information sheet is a joint initiative of Birdlife Australia, the Western Australian Museum and the Department of Parks and Wildlife. Many individuals have contributed to its preparation. Special acknowledgement is made for the contributions of Ron Johnstone from the WA Museum, Alan Elliott from the Serpentine-Jarrahdale Land care Centre and Denis Saunders. This updated version was compiled by Rick Dawson Department of Parks and Wildlife).

Other information sheets in the series: Artificial hollows for Carnaby's cockatoo

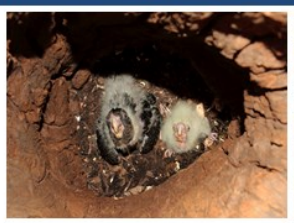
- *How to design and place artificial hollows for Carnaby's cockatoo*
- *How to monitor and maintain artificial hollows for Carnaby's cockatoo*

Information sheets available on the *Saving Carnaby's cockatoo* webpage:
http://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-animals/208-saving-carnaby-s-cockatoo

Schedule 2

How to monitor and maintain artificial hollows for Carnaby's cockatoo



birdlife AUSTRALIA

WATER CORPORATION

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How to monitor and maintain artificial hollows for Carnaby's cockatoo

It is important to monitor and maintain artificial hollows after they have been erected. Monitoring ensures that the effectiveness of the artificial hollow can be determined. It also means that problems with pest species or any maintenance requirements can be identified and resolved.

Without regular maintenance, artificial hollows are likely to fail to achieve their objective (that is, they will fail to provide nesting opportunities for threatened cockatoos). Therefore it is important to continue a regime of regular maintenance while the artificial hollow is required. It may be several (to many) decades until a natural replacement hollow is available.

Monitoring should be undertaken in order to detect:

- Use by Carnaby's cockatoo
- Maintenance requirements
- Use by other native species
- Use by pest species (e.g. feral bees, galahs, corellas etc.)

Carnaby's cockatoo female prospecting an artificial hollow.
Photo by Rick Dawson

How do I monitor artificial hollows?

Before undertaking monitoring of artificial hollows for Carnaby's cockatoo it is recommended that you seek advice from BirdLife Australia, the WA Museum or the Department of Parks and Wildlife. It is also important to contact Parks and Wildlife, Wildlife Licensing Section, to determine if a scientific licence is required (wildlifelicensing@dpaw.wa.gov.au).

Monitoring artificial hollows requires keen observation and naturalist skills. It is often not possible to observe evidence of breeding directly (i.e. nestlings or eggs) and inferences must be made based on observation. There are many techniques available to monitor artificial hollows. A combination of several is likely to achieve the best results.

Looking for signs of use

Cobwebs covering the entrance to the hollow will indicate that the hollow has not been used recently. This would also apply to other light debris that may have fallen to cover the opening partially. Signs of recent use or interest in the hollow include evidence of chewing.

Observing parent behaviour around the hollow

The behaviour of parent birds around a hollow will indicate an approximate age of young in the nest.

Parent behaviour	**Approximate age/stage of young**
Prospecting for hollow	Unborn
Male only seen out of hollow	Egg or very young nestling (< 3 - 4 weeks)
Both parents seen entering/exiting the hollow	Nestling(s) have hatched (> 3 - 4 weeks)

Observing feeding flocks

Flocks of all male birds indicate that the females are incubating eggs. When flocks are mixed it suggests the birds have either not laid yet or that the nestlings have hatched and no longer require brooding (approximately 3 - 4 weeks old).

Tapping

When females are sitting on eggs they will usually respond to tapping at the base of their tree (or pole) by appearing at the entrance or flying from the hollow opening. This is not a guarantee of breeding activity, but an indication that it is possibly occurring in the hollow.

Observing insect activity around nest

The faecal matter produced by nestlings in a nest attracts insects, especially flies and ants. The type and number of these insects will help indicate how old any nestlings present may be. Factors such as temperature and humidity will also affect insect activity and so observations of insect activity should only be used as supporting evidence for other indications of age/use. Blowflies around a nest usually indicate that a death has occurred.

Listening for nestlings

With experience it is possible to determine if one or two nestlings are present and a broad estimate of age based on the type and loudness of noises they make.

Looking inside the nest

This can be achieved either with the aid of a telescopic pole and camera or mirror, or with the use of a ladder or other climbing equipment. This method can obtain the most detailed monitoring information for artificial hollows. However it is also the most time consuming and difficult to organise. Special equipment is likely to be needed depending on the height and positioning of artificial hollows. There are also safety issues associated with ladder or rope climbing options to reach nests to undertake observations.

How often should I monitor artificial hollows?

The minimum frequency of monitoring and the techniques used will be determined by the aims of the monitoring and the resources available. It is important to limit disturbance to breeding birds and this should be considered when determining the techniques used and frequency.

How do I maintain artificial hollows?

Artificial hollows require maintenance to ensure they continue to have the greatest chance of them being used by Carnaby's cockatoos. Periodic maintenance checks should be undertaken at least every two years, preferably annually. These checks should be undertaken prior to the breeding season which is between July and January with breeding occurring later in this period in southern areas. It is important to maintain a regime of regular maintenance as long as the artificial hollow is required. It may take several (to many) decades until a natural replacement hollow is available.

Maintenance checks should assess the following as a minimum:

- Condition of chewing posts (if present)
- Condition of attachment points
- Condition of hollow bases
- Stability of tree or pole used to mount the artificial hollow

Artificial hollow base needing repair.
Photo by Christine Groom

Repairing hollows

Any problems identified during maintenance checks should be addressed, and any repairs required done, as soon as possible. If breeding is currently occurring, maintenance may need to be delayed if it is likely to disturb the parents or nestling. Likely maintenance needs include replacement of chewing posts (frequently) or nest bases (occasionally) and repairing of any cracks (infrequently). Maintenance concerns regarding the security of attachment points or the stability of the tree or pole should be addressed as a priority for safety reasons.

For artificial hollows known to be used, spare chewing posts should be taken into the field when undertaking maintenance checks.

Monitoring of artificial hollows:

Monitoring aim	Frequency of visits	Monitoring techniques
To determine possible use by Carnaby's cockatoo	At least once during peak breeding season (i.e. between September and December)	• Observing behaviour of adults around hollow • Tapping to see if female will flush from hollow (best undertaken between 10am and 3pm when females most likely to be sitting) • Listening for nestlings • Looking for evidence of chewing • Looking inside nest
To confirm use by Carnaby's cockatoo	At least two visits during peak breeding season (i.e. between September and December)	To observe at least two of the following: • Breeding behaviour of adults around hollow or evidence of chewing • Female flushed from hollow • Noises from nestlings in hollow Or to observe: • Nestlings or eggs in nest
To determine nesting success by Carnaby's cockatoo	The more visits, the better. Preferably fortnightly visits between July and December. As a minimum, at least 3 visits spread throughout breeding season.	• Looking inside nest to observe eggs or nestlings.
To determine use by any species	As often as possible.	• Inspection from ground as a minimum. • Looking inside nest for detailed observations.
To determine maintenance requirements	At least every two years and preferably annually if hollow fitted with sacrificial chewing posts, can be longer if without.	• A basic maintenance check can be undertaken from the ground. A ladder or elevated work platform will be required for a comprehensive check and to replace sacrificial chewing posts

Acknowledgements

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Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6800/2
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Main Roads Western Australia
Application received date: 21 April 2021

1.3. Property details

Property:
LOT 30 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 300 ON PLAN 61669, KAURING
LOT 29 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 29644 ON PLAN 253933 (CROWN RESERVE 2570), KAURING
LOT 28 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 2877 ON PLAN 101729, EAST BEVERLEY
LOT 27 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 27 ON PLAN 184274 (CROWN RESERVE 37147), KAURING
LOT 2533 ON PLAN 100222, EAST BEVERLEY
LOT 23 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 22 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 22321 ON PLAN 142981, KAURING
LOT 22037 ON PLAN 142634, GILGERING
LOT 21 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 21112 ON PLAN 253113, EAST BEVERLEY
LOT 20 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 1 ON PLAN 12731, EAST BEVERLEY
LOT 1 ON DIAGRAM 2738, GREENHILLS
LOT 19 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 1971 ON PLAN 251700, GREENHILLS
LOT 1793 ON PLAN 248792, KAURING
LOT 10991 ON PLAN 252293, KAURING
LOT 10635 ON PLAN 251715, KAURING
LOT 10586 ON PLAN 128235, EAST BEVERLEY
LOT 10439 ON PLAN 126759, EAST BEVERLEY
LOT 101 ON PLAN 300173, KAURING
LOT 101 ON DIAGRAM 68429, KAURING
LOT 100 ON PLAN 300173, KAURING
ROAD RESERVE (PIN 11661058), DULBELLING
UNALLOCATED CROWN LAND (PIN 11651251), DULBELLING
ROAD RESERVE (PIN 1359684), DULBELLING
ROAD RESERVE (PIN 1359824), EAST BEVERLEY
ROAD RESERVE (PIN 1359823), EAST BEVERLEY
ROAD RESERVE (PIN 1290747), EAST BEVERLEY
RAILWAY RESERVE (PIN 977677), DULBELLING
ROAD RESERVE (PIN 1359775), EAST BEVERLEY
ROAD RESERVE (PIN 1290742), EAST BEVERLEY
ROAD RESERVE (PIN 1359776), EAST BEVERLEY
ROAD RESERVE (PIN 1359771), EAST BEVERLEY
ROAD RESERVE (PIN 1290743), EAST BEVERLEY
ROAD RESERVE (PIN 1290746), EAST BEVERLEY
ROAD RESERVE (PIN 1290745), EAST BEVERLEY
ROAD RESERVE (PIN 11744714), EAST BEVERLEY
ROAD RESERVE (PIN 1359774), EAST BEVERLEY
ROAD RESERVE (PIN 1359772), EAST BEVERLEY
ROAD RESERVE (PIN 1359773), EAST BEVERLEY
ROAD RESERVE (PIN 1359767), EAST BEVERLEY
ROAD RESERVE (PIN 1359778), BALKULING
ROAD RESERVE (PIN 1359766), EAST BEVERLEY
ROAD RESERVE (PIN 1359764), EAST BEVERLEY
ROAD RESERVE (PIN 1359765), EAST BEVERLEY
ROAD RESERVE (PIN 1359763), EAST BEVERLEY
ROAD RESERVE (PIN 1359760), EAST BEVERLEY
ROAD RESERVE (PIN 1359762), EAST BEVERLEY
ROAD RESERVE (PIN 1359751), EAST BEVERLEY
RAILWAY RESERVE (PIN 977594), KAURING
ROAD RESERVE (PIN 1359750), EAST BEVERLEY

ROAD RESERVE (PIN 1359745), KAURING
ROAD RESERVE (PIN 1359744), KAURING
ROAD RESERVE (PIN 1359742), KAURING
ROAD RESERVE (PIN 1255099), KAURING
ROAD RESERVE (PIN 1359743), KAURING
ROAD RESERVE (PIN 1255098), KAURING
ROAD RESERVE (PIN 1255096), KAURING
ROAD RESERVE (PIN 1359696), KAURING
ROAD RESERVE (PIN 1359697), KAURING
UNALLOCATED CROWN LAND (PIN 675473), KAURING
ROAD RESERVE (PIN 1359687), KAURING
ROAD RESERVE (PIN 1359695), KAURING
ROAD RESERVE (PIN 11406903), KAURING
ROAD RESERVE (PIN 1359685), KAURING
ROAD RESERVE (PIN 11406902), GREENHILLS
RAILWAY RESERVE (PIN 451360), KAURING
ROAD RESERVE (PIN 1359838), GREENHILLS
ROAD RESERVE (PIN 11427181), GREENHILLS
ROAD RESERVE (PIN 11427179), GREENHILLS
ROAD RESERVE (PIN 11427182), KAURING
DEPOSITED PLAN 49563 (PIN 11533058), KAURING
DEPOSITED PLAN 49564 (PIN 11535124), KAURING
LOT 90 ON PLAN 32332, KAURING
LOT 8 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 8965 ON PLAN 123514, EAST BEVERLEY
LOT 8344 ON PLAN 121672, EAST BEVERLEY
DEPOSITED PLAN 59021 (PIN 11738289), EAST BEVERLEY
LOT 7 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 71 ON PLAN 300187, GREENHILLS
LOT 70 ON PLAN 5921, KAURING
LOT 70 ON PLAN 5921, GREENHILLS
LOT 704 ON PLAN 245304, KAURING
LOT 6 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 6735 ON PLAN 118591, EAST BEVERLEY
LOT 6680 ON PLAN 253121, EAST BEVERLEY
LOT 6163 ON PLAN 114146, EAST BEVERLEY
LOT 5 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 59 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 57 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 56 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 55 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 556 ON DIAGRAM 95114, KAURING
LOT 555 ON DIAGRAM 95114, KAURING
LOT 54 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 53 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 51 ON PLAN 19318, KAURING
LOT 4900 ON PLAN 111085, KAURING
LOT 699 ON DEPOSITED PLAN 416435, KAURING
LOT 698 ON DEPOSITED PLAN 416436, KAURING
LOT 697 ON DEPOSITED PLAN 416437, KAURING
LOT 695 ON DEPOSITED PLAN 416439, KAURING
LOT 48 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 47 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 46 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 45 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 44 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 43 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 42 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 41 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 4149 ON PLAN 111093, DULBELLING
LOT 40 ON PLAN 228706, EAST BEVERLEY
LOT 3 ON PLAN 60263, EAST BEVERLEY
LOT 38 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 37 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 36 ON PLAN 228706 (CROWN RESERVE 14337), EAST BEVERLEY
LOT 351 ON PLAN 66254 (CROWN RESERVE 15812), KAURING
LOT 350 ON PLAN 66254 (CROWN RESERVE 22961), KAURING
LOT 33 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 3392 ON PLAN 103463, EAST BEVERLEY
LOT 32 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 3235 ON PLAN 102572, EAST BEVERLEY
LOT 31 ON PLAN 228706 (UNALLOCATED CROWN LAND), EAST BEVERLEY
LOT 17361 ON PLAN 252291, KAURING

	LOT 16908 ON PLAN 253330, KAURING LOT 150 ON DIAGRAM 95848, KAURING LOT 599 ON DEPOSITED PLAN 412322, DULBELLING
Local Government Authority:	Shire of Beverley Shire of Quairading Shire of York
Localities:	Dulbelling East Beverley Gilgering Green Hills Kauring

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
31.419		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application:	Granted
Decision Date:	27 July 2021

Reasons for Decision:

The clearing permit amendment application was received on 21 April 2021 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the assessment of impacts to environmental values is unchanged since the previous assessment for Clearing Permit CPS 6800/1 and that the proposed clearing is at variance to clearing principles (a), (b), (d), (e), and (f), may be at variance to clearing principles (c), (h) and (g), and is not likely to be at variance to any of the remaining clearing principles.

The Delegated Officer took into consideration that the proposed amendment relates only to extending the permit duration and extending the period in which clearing is authorised from 30 July 2021 to 30 July 2031. The Delegated Officer also considered that Clearing Permit CPS 6800/1 is associated with an approval under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC 2015/7536), which has also been extended until 30 July 2031.

The Delegated Officer acknowledges that 7.44 hectares of project-related clearing was undertaken outside of the permit area in 2016. The Delegated Officer determined that the total area of clearing authorised under the amended permit should be reduced to no more than 31.41 hectares of native vegetation, to account for this clearing.

A review of current environmental information identified that the environmental values present within the permit area remain largely unchanged from the previous assessment of the permit and that the proposed clearing may result in significant impacts to threatened and priority flora species, Carnaby's black cockatoo, red-tailed phascogale, the Eucalypt Woodlands of the Western Australian Wheatbelt (Wheatbelt Woodlands) federally listed threatened ecological community (TEC) and state-listed priority ecological community (PEC), and significant remnant vegetation. Given the extent of the environmental values identified within the permit area is not considered to have changed since the previous assessment of Clearing Permit CPS 6800/1, the Delegated Officer determined that the residual impacts of the proposed clearing also remain unchanged and that clearing associated with the permit will result in the loss of:

- 15.33 hectares of vegetation representative of the Wheatbelt Woodlands TEC/PEC,
- 35.59 hectares of significant foraging habitat and 592 potential nesting trees for Carnaby's cockatoo,
- 38.2 hectares of significant foraging and breeding habitat for red-tailed phascogale, and
- 38.85 hectares of native vegetation considered to be a significant remnant of native vegetation in an area that has been extensively cleared.

Given the residual impacts of the proposed clearing are unchanged from the previous assessment of the permit, the Delegated Officer considered that the existing offset involving a monetary contribution towards the purchase of 261 hectares of remnant vegetation that includes 261 hectares of Wheatbelt Woodlands TEC/PEC, 261 hectares of habitat for Carnaby's cockatoo and red-tailed phascogale, and 261 hectares of native vegetation that is considered to be a significant remnant in an area that has been extensively cleared, remains sufficient to counterbalance the significant residual impacts of the clearing proposed. The proposed offset remains consistent with the *WA Environmental Offset Policy* (2011), *WA Environmental Offsets Guidelines* (2014) and *EPBC Act Environmental Offsets Policy* (2012).

The Delegated Officer also took into consideration that this offset requirement has been satisfied in accordance with the conditions of Clearing Permit CPS 6800/1 and that the monetary contribution has been used to fund the purchase of 365.94 hectares of remnant native vegetation in the Shires of Brookton and Beverley which includes vegetation representative of the Wheatbelt Woodlands TEC/PEC, foraging and potential breeding habitat for Carnaby's cockatoo and red-tailed phascogale, and native vegetation that is considered to be a significant remnant in an area that has been extensively cleared.

However, the Delegated Officer considered that potential direct impacts to threatened and priority flora species, Carnaby's black cockatoo, and red-tailed phascogale remained. The Delegated Officer determined to amend the clearing permit to include fauna and flora management conditions, comprising pre-clearance inspections of suitable fauna habitat and a targeted flora survey to demarcate and avoid any individuals identified, to mitigate direct impacts to individuals that may be present at the time of clearing.

In determining to grant an amendment to the clearing permit subject to avoid and minimise, weed control, fauna management, flora management and offset conditions, the Delgetated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description:

The proposed amendment to Clearing Permit CPS 6800/1 is for the purpose of extending the permit duration by 10 years to 30 July 2031. CPS 6800/1 allowed for the clearing of no more than 38.85 hectares of native vegetation within various properties, Crown reserves and road reserves within the localities of Dulbelling, East Beverley, Gilgering, Green Hills and Kauring, for the purpose of widening York Merredin Road.

The total area of clearing allowed under the amended permit has been reduced from that authorised under CPS 6800/1, to account for project-related clearing that occurred in 2016. The total area of clearing authorised under the amended permit is to be no more than 31.41 hectares of native vegetation within various properties, Crown Reserves and road reserves within the localities of Dulbelling, East Beverley, Gilgering, Green Hills and Kauring, for the purpose of widening York Merredin Road.

Vegetation Description

A site inspection undertaken by the former Department of Environment Regulation (DER) in December 2015 (DER, 2015) and a biological survey undertaken by GHD in September 2014 (GHD, 2014) indicate the vegetation within the proposed clearing area consists of the following vegetation types:

- **York Gum and Jam woodland (ElAaW)**, described as woodland of *Eucalyptus loxophleba, Acacia acuminata* and *Allocasuarina huegeliana* over open shrubland of *Gastrolobium spinosum, Ptilotus divaricatus, Acacia lasiocarpa* var. *bracteolata, Enchylaena lanata* and *Acacia erinacea* over grassland of *Austrostipa elegantissima, *Ehrharta longiflora, *Avena barbata,* over scattered herbs of *Ptilotus holosericeus, Tricoryne tenella, Rhodanthe* spp., *Lawrencella rosea, Trachymene ornata*,
- **York and Salmon Gum woodland (ElEsW)**, described as woodland of *Eucalyptus loxophleba* and *E. salmonophloia* over shrubland of *Acacia erinacea, Rhagodia preissii, Gastrolobium trilobum, Enchylaena lanata, Templetonia sulcata;* over grassland and herbland of **Ehrharta longiflora, Austrostipa elegantissima, *Oxalis pes-caprae, Trachymene ornata, *Ursinia anthemoides*,
- **Wandoo woodland (EwW)**, described as woodland of *Eucalyptus wandoo* over mixed shrubland of *Gastrolobium obovatum, G. parviflorum, Hypocalymma angustifolium, Acacia lasiocarpa* var. *bracteolata, Dampiera lavandulacea* and grassland of *Austrostipa elegantissima, Neurachne alopecuroidea and Rytidosperma setaceum* over mixed sedgeland and herbland of *Desmocladus* spp., *Lepidosperma tenue, Opercularia vaginata* and scattered herbs including *Podolepis capillaris, Trachymene ornata, Goodenia berardiana*. Scattered patches throughout this vegetation were dominated by *Allocasuarina humilis* and *Hakea* spp.,
- **Samphire shrubland and sedges with fringing Casuarina and York Gum (TsS)**, described as shrubland of *Tecticornia* sp. and sedgeland of *Juncus acutus, J. radula*,
- **Salt Sheoak woodland (CoW)**, described as woodland of *Casuarina obesa* over introduced species,
- **York Gum and Wandoo woodland over Jam low woodland, with occasional Salmon Gum and Sheoak (ElEwAaW)**, described as woodland of *Eucalyptus wandoo* and *E. loxophleba* over low woodland of *Allocasuarina huegeliana* and *Acacia acuminata* over low shrubland of *Gastrolobium trilobum, Dampiera lavandulacea, Enchylaena lanata,* over grassland of **Ehrharta longiflora, Austrostipa elegantissima, Neurachne alopecuroidea*,

- **Wandoo and Salmon Gum woodland (EwEsW)**, described as woodland Woodland of *Eucalyptus wandoo* and *E. salmonophloia* over low woodland of *Acacia acuminata* and *Allocasuarina huegeliana* over shrubland of *Gastrolobium trilobum, Templetonia sulcata, G. obovatum* and *Xanthorrhoea drummondii* and grassland of *Austrostipa elegantissima* and *Neurachne alopecuroidea* over herbland of *Dampiera lavandulacea*,
- **Mixed Heath (TaS)**, described as tall open scrub of *Trymalium angustifolium* over open mixed heath of *Trymalium angustifolium, Acacia lasiocarpa* var. *bracteolata, Gastrolobium parviflorum, G. obovatum, G. spinosum* over grassland of *Austrostipa elegantissima, Neurachne alopecuroidea, *Briza maxima, *Ehrharta longiflora* over mixed herbland of **Oxalis pescaprae, *Romulea rosea, Burchardia congesta, Hydrocotyle pilifera,* and *Stylidium repens,* with scattered *Eucalyptus salmonophloia* and *E. wandoo*, and
- **Scattered Eucalypt trees** (especially York Gum, Wandoo and Salmon Gum) over weeds with scattered shrubs, including *Enchylaena* spp. along roadside. Dominant weeds included **Bromus arenarius, *Ehrharta longifolia, *Avena barbata, *Oxalis pes-caprae, *Brassica spp., *Arctotheca calendula, *Lolium rigidum* (GHD, 2014).

The full vegetation survey mapping is available at Appendix D.

Vegetation Condition

A site inspection undertaken by the then Department of Environment Regulation (DER) in December 2015 (DER, 2015) and a biological survey undertaken by GHD in September 2014 (GHD, 2014) indicate that the condition of the vegetation within the application area ranges from Excellent to Completely Degraded (Keighery, 1994) condition, defined as:

- Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive, and
- Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994).

The full vegetation condition mapping is available at Appendix D.

Soil Type

The soil types within the application area is mapped as the following subsystems:

- Avon Flats Subsystem (256AfAV), described as alluvial terraces and floodplains that occur adjacent to the Avon, lower Mortlock and lower Dale rivers,
- Jelcobine York Subsystem (256JcYO), described as areas of soils derived from freshly exposed rock. This unit is typified by the red soils of the Avon Valley but also includes areas of similar, but often greyer and lighter textured soils to the east of the valley,
- Goomalling Mortlock Subsystem (256GoMO), described as valley floors of the Mortlock River and other similar creeks that predominantly contain sand over yellowish clay soils. Prone to salinity and waterlogging,
- Greenhills York Subsystem (256GhYO), described as areas of soils derived from freshly exposed rock. This unit is typified by the red soils of the Avon Valley but also includes areas of similar, but often greyer and lighter textured soils to the east of the valley,
- Greenhills Ewarts Phase 2 (256GhES2), described as hillslopes containing sand and loamy sand over yellowish clay soils, with some gravel ridges, and some heavier soils that often occur immediately below a breakaway,
- Ewarts 2 Phase (256MbES2), described as hillslopes containing sand and loamy sand over yellowish clay soils, with some gravel ridges, and some heavier soils that often occur immediately below a breakaway,
- Morbinning York Subsystem (256MbYO), described as areas of soils derived from freshly exposed rock. This unit is typified by the red soils of the Avon Valley but also includes areas of similar, but often greyer and lighter textured soils to the east of the valley,
- Morbinning 4 Subsystem (256Mb_4), described as narrow tributary valleys of the Goomalling system with duplex soils under Wandoo vegetation,
- Hamersley Subsystem (Jc) (256JcHM), described as narrow, minor drainage lines that occur predominantly within the York unit and lead down to major drainage systems such as the Avon and Dale rivers, and
- Greenhills 4 Subsystem (256Gh_4), tributaries of the Mortlock river, expressing as flat narrow valleys with saline soils, semi-wet soils and grey sandy duplexes, vegetated by Wandoo-Salmon-York Gum woodlands, east of Northam and Beverley (DPIRD, 2021).

Local Area

The local area referred to in the assessment of this application is defined as a 10-kilometre (km) radius measured from the perimeter of the application area.

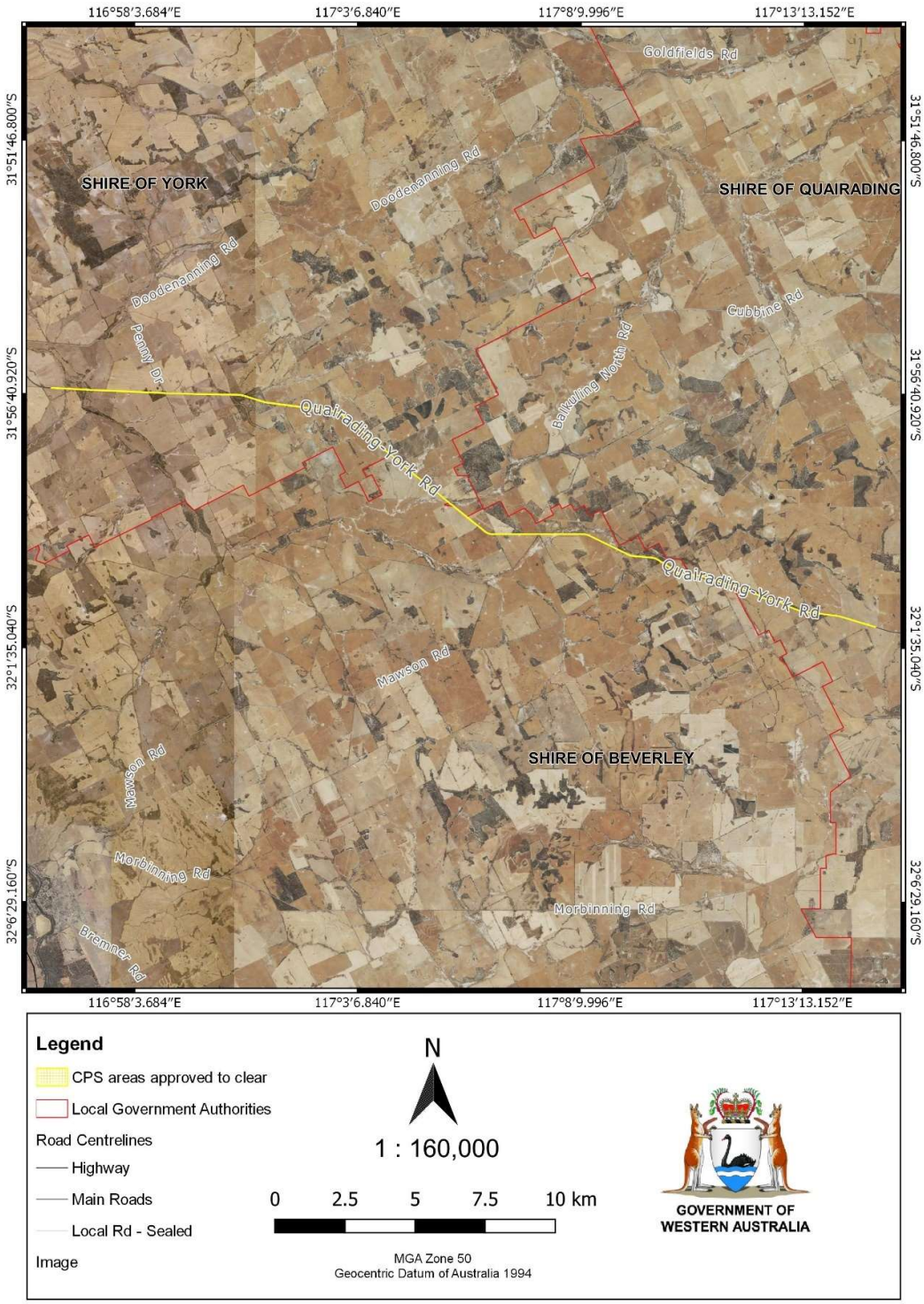


Figure 1. The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit amendment.

3. Avoidance and mitigation measures and Permit Holder's submissions

The Permit Holder advised that, due to funding constraints, the full programme of work and clearing outlined under CPS 6800/1 had not been completed over the duration of the permit (MRWA, 2021a). The Permit Holder advised that funding has now been allocated to allow completion of the works and an extension to the duration of CPS 6800/1 is required to ensure adequate time to undertake the remaining works, noting CPS 6800/1 is due to expire on 30 July 2021 (MRWA, 2021a). The Permit Holder advised that avoidance and mitigation measures in the design and execution of the proposal are unchanged from the previous assessment of the permit and can be found in the Decision Report for CPS 6800/1 (MRWA, 2021a).

4. Assessment of application against clearing principles and planning instruments and other matters

The proposed amendments to CPS 6800/1 relate to extending the permit duration and the period in which clearing is authorised by 10 years to 30 July 2031.

Assessment relating to current environmental information

A review of current environmental information indicates that the environmental values present within the permit area remain largely unchanged from the previous assessment of the permit.

Conservation significant flora

In regards to conservation significant flora, noting the bilogical survey undertaken for the application area is dated 2014, a desktop review of current databases was undertaken within the local area (10 kilometre radius). The desktop assessment identified a total of 40 threatened or priority flora species within the local area, comprising five Priority 1 (P1) flora, four Priority 2 (P2) flora, 15 Priority 3 (P3) flora, eight Priority 4 (P4) flora, and eight threatened flora (see Appendix B; Western Australian Herbarium, 1998-). Of these species, 27 were considered during the previous assessment of the permit and were specifically considered during flora and vegetation surveys in 2014 (GHD, 2014). The 2014 flora and vegetation surveys did not identify any threatened flora listed under the *Biodiversity Conservation Act 2016* (BC Act) or the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) occurring within the permit area (GHD, 2014). Two priority flora species, *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) (P1) and *Hemigenia platyphylla* (P4) were identified within the permit area during the survey (GHD, 2014). Advice received from the then Department of Parks and Wildlife (DPAW) identified that impacts to *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) resulting from the proposed clearing had the potential to be significant to its conservation status (DPAW, 2015). The proposed road alignment was subsequently realigned to avoid all individuals of *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) identified during the survey and the proposed clearing was not considered likely to result in significant impacts to the species. The updated road alignment also avoided all individuals of *Hemigenia platyphylla* and DPAW advised that any indirect impacts to *Hemigenia platyphylla* were unlikely to be significant to its conservation status (DPAW, 2015). However, it is noted that, as the previous survey was undertaken in 2014, the extent of individuals within the permit area may have changed. Therefore, the proposed clearing has the potential to result in impacts to these species and any impacts to *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) would be considered significant, if any individuals are likely to be cleared.

Although 27 of the species identified in the desktop assessment were considered during the 2014 flora and vegetation surveys (GHD, 2014), the previous assessment of the permit acknowledged that conservation significant flora were opportunistically recorded during vegetation mapping in the 2014 survey, rather than being specifically targeted. A review of the methodology of the 2014 survey also indicates that, while the timing of the survey would have been acceptable for the identification of the majority of conservation significant flora recorded in the local area, the survey did not cover the entire permit area and was limited to road reserves and public land parcels (i.e. Crown reserves) (GHD, 2014). A subsequent assessment was undertaken in June 2015 that included private land parcels within the permit area that were not surveyed in 2014, however the exact location and formal findings of this assessment were not supplied at the time of the original assessment and it is unlikely that the timing of this assessment would have been suitable for the identification of many conservation significant taxa. This notion was supported by advice received from DPAW during the previous assessment, which stated that targeted surveys for conservation significant flora had not been conducted for the whole application area and that the surveys were not adequate to rule out the occurrence of other conservation significant flora (DPAW, 2015). The previous assessment of the permit acknowledged this and concluded that the vegetation within the application area may include threatened flora, despite the findings of the flora and vegetation surveys. Based on a review of current environmental information, site characteristics, and habitat preferences, all eight threatened flora species recorded in the local area have the potential to occur within the permit area, comprising *Acacia ataxiphylla* subsp. *magna*, *Allocasuarina fibrosa*, *Guichenotia seorsiflora*, *Hakea aculeata, Melaleuca sciotostyla*, *Stylidium coroniforme* subsp. *amblyphyllum*, *Thomasia glabripetala*, and *Thomasia montana* (Western Australian Herbarium, 1998-). With respect to the 19 priority flora species that were considered during the previous assessment and the 2014 flora and vegetation surveys (GHD, 2014), a review of current environmental information, site characteristics, habitat preferences, and the distribution and extent of existing records, indicate that significant impacts to these species were unlikely to result from the proposed clearing and that no further consideration was required, with the exception of *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) discussed above.

Acacia ataxiphylla subsp. *magna* (large-fruited Tammin wattle), listed as Endangered under both the BC Act and EPBC Act, is a sprawling, leafless shrub with yellow flowers occurring from June to September and is associated with heath to shrub mallee or low woodland on shallow grey-brown gravelly sands over laterite (TSSC, 2015). The interim recovery plan states that the species is known from fourteen populations and three subpopulations in the Cunderdin-Tammin area, where majority of the known records persist in road reserves or on private properties and the species is not well-represented in conservation tenure (TSSC, 2015). Given the permit area includes woodland and heath in soil systems consistent with existing records, the permit area may provide suitable habitat for the large-fruited Tammin wattle. It is acknowledged that only the easternmost portion of the permit area is located within the known range of the species and that the permit area is unlikely to meet the definition of critical habitat for the large-fruited Tammin wattle, described as the area of occupancy and areas of suitable habitat within 200 metres of known populations, corridors of remnant vegetation that link populations, and occurrences of similar habitat that do not currently contain the species but may have done so in the past (TSSC, 2015). However, the interim recovery plan acknowledges that any impacts to individuals are likely to be significant to the continuation of the species, given its poor recruitment, and states that on-ground works should not be approved unless the proponents can demonstrate that they will not have an impact on the species, its habitat or potential habitat (Harris and Brown, 2003). Noting the above and that the 2014 flora surveys were not adequate in timing or survey effort to rule out the occurrence of rare flora in the permit area, it is considered possible that the large-fruited Tammin wattle is present within the permit area and that impacts to individuals would represent a significant residual impact.

Allocasuarina fibrosa (woolly sheoak), listed as Vulnerable under both the BC Act and EPBC Act, is a small, densely branched shrub with red-brown flowers occurring from July to August and grows in tall open heath on white sand over laterite with associated species *Acacia campestris*, *Banksia sphaerocarpa*, *Hakea* spp., and *Leptospermum erubescens* (DEWHA, 2008a). The species is known from four populations from Tammin and Quairading, with two known populations within the Charles Gardner Flora Reserve (DEWHA, 2008a). Given the permit area includes heath in soil systems consistent with existing records, the permit area may provide suitable habitat for the woolly sheoak. However, the woolly sheoak is known to be highly sensitive to disturbance with the main threats to the continuation of the species being land degradation issues, innappropriate burn regimes, weed invasion, grazing and soil disturbance (DEWHA, 2008a). Accordingly, the woolly sheoak is typically known from undisturbed areas with a dense shrub understorey (DEWHA, 2008a). Given the permit area is highly disturbed and degraded from the existing road infrastructure and that the better quality heath within the permit area lacks the species typically associated with the woolly sheoak, it is not considered likely that the permit area provides significant habitat or that the proposed clearing represents a significant impact to the continuation of the species.

Guichenotia seorsiflora, listed as Critically Endangered under both the BC Act and EPBC Act, is a multi-stemmed shrub with pink flowers occurring between July and September and occurs in wandoo woodland on sandy clay with lateritic gravel and on breakaways (a lateritic ridge with a steep eroded slope) (DEWHA, 2009). The species is known from four subpopulations in the Cunderdin and Corrigin areas with an extent of occurrence of approximately 3700 square kilometres and a total population of approximately 110 mature plants (DEWHA, 2009). As the permit area includes wandoo woodland in soil systems consistent with existing records, the permit area may provide suitable habitat for *Guichenotia seorsiflora*. Noting the above and that the 2014 flora surveys were not adequate in timing or survey effort to rule out the occurrence of rare flora in the permit area, it is considered possible that *Guichenotia seorsiflora* is present within the permit area. Given the conservation status of the species and that one of the primary threats to the continuation of the species is noted to be habitat loss from road maintenance activities (DEWHA, 2009), impacts to individuals resulting from the proposed clearing would represent a significant residual impact to *Guichenotia seorsiflora*.

Hakea aculeata (column hakea), listed as Endangered under the BC Act and as Vulnerable under the EPBC Act, is a lignotuberous shrub with cream and yellow flowers occurring between September and October and is associated with scrub and tall shrubland, on higher ground or hill tops on pale white loamy sand and gravely soil, with associated species *Eucalyptus macrocarpa*, *Dryandra* spp., *Leptospermum erubescens*, *Allocasuarina campestris*, *Banksia sphaerocarpa* and *Daviesia oxylobium* (DEWHA, 2008b). The column hakea is known from 30 populations, from south of Meckering and Tammin to north-east of Brookton, with a total of 1300 mature, flowering plants (DEWHA, 2008b). Most of the populations occur within disturbed areas including road reserves and private properties, and populations are declining as a result (DEWHA, 2008b). Given the permit area includes shrubland and low woodland in soil systems consistent with existing records, the permit area may provide suitable habitat for the column hakea. However, the permit area lacks the species typically associated with the column hakea, the permit area is not elevated or on a hill top, and none of the 30 known populations occur within one kilometre of the permit area. Given the above and the disturbed nature of the permit area, it is not considered likely that the permit area provides significant habitat or that the proposed clearing represents a significant impact to the continuation of the column hakea.

Melaleuca sciotostyla (Wongan melaleuca), listed as Endangered under both the BC Act and EPBC Act, is a shrub that occurs in orange clayey sand with lateritic pebbles and scree slopes in dense shrubland including associated species *Eucalyptus erythronema*, *Eucalyptus obtusiflora* and *Eucalyptus sheathiana* (DoE, 2014). The species is known from 10 populations from Wongan-Ballidu to Yilgarn and Quairading, with most major populations occurring in Crown and Nature Reserves, including a pistol range reserve and a water reserve (DoE, 2014). Given the permit area includes shrubland and low woodland in soil systems consistent with existing records, the permit area may provide suitable habitat for Wongan melaleuca. However, Wongan melaleuca is known to be highly sensitive to disturbance with the main threats to the continuation of the species being inappropriate fire regimes, water run-off and soil deposition, roadworks, weed invasion and firebreak maintenance (DoE, 2014). Accordingly, the Wogan melaleuca is typically known from undisturbed areas in dense shrubland (DoE, 2014). Given the permit area is highly disturbed and degraded from the existing road infrastructure and that the better quality shrubland within the permit area lacks the species typically associated with Wongan melaleuca, it is not considered likely that the permit area provides significant habitat or that the proposed clearing represents a significant impact to the continuation of the species.

Stylidium coroniforme subsp. *amblyphyllum*, listed as Endangered under both the BC Act and EPBC Act, is a perennial herb associated with shallow soils over sheet laterite or small cracks on sheet laterite in open *Eucalyptus argyphea* and wandoo woodland, *Eucalyptus astringens* woodland, or mallee shrubland or heath, with associated species including *Banksia* spp., *Grevillea insignis* and *Hakea subsulcata* (TSSC, 2019). *Stylidium coroniforme* subsp. *amblyphyllum* is noted to be a disturbance opportunist, with fire stimulated germination, and are naturally short-lived (TSSC, 2019). The species is known from 11 subpopulations in four locations from Cunderdin to Quairading, with all subpopulations but one occurring within private properties (TSSC, 2019). As the permit area includes wandoo woodland in soil systems consistent with existing records, the permit area may provide suitable habitat for *Stylidium coroniforme* subsp. *amblyphyllum*. However, the 2014 flora and vegetation survey noted that the fire age of the site is old, with no observable evidence of fire for at least five years (GHD, 2014). Given the wandoo woodland present within the permit area lacks the species typically associated with *Stylidium coroniforme* subsp. *amblyphyllum* and that the fire frequency of the site is unlikely to be suitable to facilitate recruitment of a viable population, it is not considered likely that the permit area provides significant habitat or that the proposed clearing represents a significant impact to the continuation of the species.

Thomasia glabripetala (sandplain Thomasia), listed as Vulnerable under both the BC Act and EPBC Act, is an upright shrub with purplish-pink flowers occurring between September and October and is found on deep yellow sand over gravel and forms part of the open scrub layer in wandoo woodland (DEWHA, 2008c). The species is known from seven populations from York, up to Meenar and Cunderdin and down to Doodenanning, which are often considered as nine subpopulations (DEWHA, 2008c). Five subpopulations occur within road reserves and four occur within conservation reserves (DEWHA, 2008c). As the permit area includes wandoo woodland in soil systems consistent with existing records, the permit area may provide suitable habitat for the sandplain Thomasia. Further, there are records of sandplain Thomasia within 500 metres of the permit area along Quairading-York Road reserve and in Crown Reserve 2617 (Western Australian Herbarium, 1998-) and, noting that the 2014 flora surveys were not adequate in timing or survey effort to rule out the occurrence of rare flora in the permit area, it is considered possible that individuals are present within the permit area. The species has also experienced a significant decline in populations, with the total number of known plants having decreased by 50 per cent since 1983 (DEWHA, 2008c). Given the close proximity to existing records, that many remaining populations are limited to roadside vegetation, and that one of the primary threats to the continuation of the species is noted to be habitat loss from road works (DEWHA, 2008c), impacts to individuals resulting from the proposed clearing may represent a significant residual impact to the sandplain Thomasia.

Thomasia montana (hill Thomasia), listed as Vulnerable under both the BC Act and EPBC Act, is is an upright shrub with pink to maroon flowers occurring between September and October and is associated with elevated, moist sites with soil derived from granite, where associated vegetation includes wandoo, *Eucalyptus calophylla* and *Allocasuarina huegeliana* (DEWHA, 2008d). Hill Thomasia is also thought to favour disturbed sites, with seeds germinating readily when conditions are favourable (DEWHA, 2008d). The species is known from 15 populations near Brookton and Boyagin which are separated into 27 subpopulations (DEWHA, 2008d). Of these subpopulations, 12 occur on conservation estates, nine on private property, three on road verges, and two on shire reserves used for firewood collection and rubbish dumping (DEWHA, 2008d). As the permit area includes disturbed wandoo woodland over *Allocasuarina huegeliana* in soil systems consistent with existing records, the permit area may provide suitable habitat for the hill Thomasia. However, the conservation advice for the species emphasises the importance of minimising adverse impacts to the species at known sites and none of the 27 known subpopulations occur within three kilometres of the permit area. Given the above and that the species is flexible in its habitat preferences (DEWHA, 2008d), it is not considered likely that the permit area provides significant habitat or that the proposed clearing represents a significant impact to the continuation of the hill Thomasia.

An additional 13 priority flora species identified in the desktop assessment were not specifically discussed during the previous assessment of the permit or targeted during the 2014 survey. Of these 13 species, 11 are known from records in the local area dated prior to 2014 and were likely considered during the desktop assessment of the previous permit. Upon review of the current environmental information, site characteristics, habitat preferences, and extent and distribution of existing records, impacts to these 11 priority flora species were considered unlikely and the application area was not considered likely to comprise significant habitat. However, two priority species, *Androcalva fragifolia* (P1) and *Anigozanthos bicolor* subsp. *exstans* (P3), have been recorded in the local area only since the previous assessment of the permit and are unlikely to have been considered.

Androcalva fragifolia is a prostrate shrub associated with clay loam soils over laterate in shrubland including wandoo, *Eucalyptus macrocarpa*, *Allocasuarina* spp., *Acacia* spp., and *Grevillea* spp. (Western Australia Herbarium, 1998-). *Androcalva fragifolia* is known from 14 records from Moora to York, with four records in State Forest or Crown Reserves and the remaining records in private properties or road reserves (Western Australia Herbarium, 1998-). The species is also known to occur in disturbed areas and has been observed in roadside vegetation (Western Australia Herbarium, 1998-). Given the permit area includes wandoo woodland over *Allocasuarina* spp. and *Acacia* spp. in soil systems consistent with existing records, the permit area may provide suitable habitat for *Androcalva fragifolia*. Noting that *Androcalva fragifolia* is not well-recorded and is poorly represented in conservation estate, the proposed clearing has the potential to be significant to its conservation status and to result in a significant impact to the species, should individuals be present within the permit area.

Anigozanthos bicolor subsp. *exstans* is a perennial herb with red and green flowers occurring between August and October and is associated with damp sandy soils in wandoo woodland (Western Australian Herbarium, 1998-). The species is known from approximately 48 records from Northam to Williams and is well-represented in conservation estate (Western Australian Herbarium, 1998-). Given the permit area includes wandoo woodland in soil systems consistent with existing records, the permit area may provide suitable habitat for *Anigozanthos bicolor* subsp. *exstans*. However, given the condition of the vegetation, the adjacent land uses, and the extent and distribution of existing records, it is not considered likely that the permit area comprises significant habitat for *Anigozanthos bicolor* subsp. *exstans* or that the proposed clearing represents a significant impact to the continuation of the species.

Given the above, it is considered that the assessment of impacts to flora species remain largely unchanged from the previous assessment of the permit, in that the permit area provides suitable habitat for conservation significant flora species and may comprise significant habitat for threatened and priority flora including *Eremophila glabra* subsp. York (P.G. Wilson 12172 B), *Acacia ataxiphylla* subsp. *magna*, *Guichenotia seorsiflora*,*Thomasia glabripetala*, and *Androcalva fragifolia*. It is noted that the previous permit does not include measures to mitigate direct impacts to individuals that may be present in the permit area. It is also noted that, as the previous flora surveys were undertaken in 2014 and were not adequate in timing or survey effort to rule out the occurrence of conservation significant flora in the permit area, there is the potential for new records to occur.

Noting that Clearing Permit CPS 6800/1 was due to expire on 30 July 2021, the Delegated Officer determined to apply a flora management condition to the amended permit, requiring a botanist to conduct a targeted flora survey of the permit area prior to undertaking any clearing under the amended permit. As *Eremophila glabra* subsp. York (P.G. Wilson 12172 B) was identified as occurring adjacent to the permit area during the 2014 flora surveys, it is known that individuals may occur within several metres of the permit area. To mitigate impacts to *Eremophila glabra* subsp. York (P.G. Wilson 12172 B), it will be conditioned that all individuals identified in the targeted flora survey must be demarcated and no clearing of individuals will be permitted. Considering the approved alignment of the proposed road widening, the Permit Holder will be required to maintain a 1.5-metre buffer around individuals identified in the 2014 survey and to maintain a 20-metre buffer from any new individuals identified during the pre-clearance survey, unless otherwise approved by DWER. Should threatened flora species or other P1, or P2 flora species be identified within the permit area during the targeted flora survey, all individuals must be demarcated and no clearing of individuals or their relevant buffers will be permitted, unless otherwise approved by DWER. Where P3 or P4 flora species are identified, all individuals must be demarcated and clearing will be limited to less than 50 per cent of the population identified, unless otherwise approved by DWER. If the road alignment constrains the maintenance of adequate buffers to any new individuals of threatened and priority flora identified, or if individuals cannot be avoided, the permit holder will be required to seek approval from DWER, at the time which DWER will consider such impacts and seek expert advice where required. This flora management condition is considered to mitigate the risk of impacts to significant habitat for conservation significant flora species.

Conservation significant fauna

In regards to fauna, a desktop assessment identified that a total of 19 conservation significant fauna species have been recorded within the local area, including seven threatened fauna species, six priority fauna species, two fauna species protected under international agreement, four other specially protected fauna species, and one extinct species (see Appendix C; DBCA, 2007-). Of these species, 13 were considered during the previous assessment of the permit and were targeted during fauna surveys in 2014 (GHD, 2014). According to available databases, there have been no new records of these species within the local area since the fauna surveys were undertaken in 2014. Therefore, the assessment of impacts to these species are considered to be unchanged from the previous assessment of the permit and can be found in the Decision Report prepared for Clearing Permit CPS 6800/1. Given the previous assessment remains unchanged, the permit area is considered to contain 35.59 hectares of significant foraging habitat and 592 potential nesting trees for Carnaby's cockatoo and 38.2 hectares of significant foraging and breeding habitat for red-tailed phascogale.

Six species identified in the desktop assessment were not specifically discussed during the previous assessment of the permit or targeted during the 2014 survey, these were *Bettongia lesueur graii* (burrowing bettong (inland)), *Idiosoma schoknechtorum* (Mortlock River shield-backed trapdoor spider), *Thinornis rubricollis* (hooded plover), *Tringa nebularia* (common greenshank), *Tringa stagnatilis* (marsh sandpiper), and *Westralunio carteri* (Carter's freshwater mussel). The burrowing bettong (inland) was listed as extinct in 2000 and is not likely to occur within the permit area (DAWE, 2021). The Mortlock River shield-backed trapdoor spider has been long confused with its sister species *Idiosoma nigrum* (black rugose trapdoor spider), and it is considered likely that local records of the Mortlock River shield-backed trapdoor spider were considered during the previous assessment as being occurrences of the black rugose trapdoor spider, which was targeted in the 2014 survey (GHD, 2014). The Mortlock River shield-backed trapdoor spider is associated with woodland habitats in the central-eastern Wheatbelt and north-eastern Jarrah Forest Interim Biogeographic Regionalisation for Australia (IBRA) Bioregions (Rix et al., 2018). While the Eucalyptus woodland habitat within the permit area may provide suitable habitat for this species, it is noted that the permit area provides sparse woodland within road reserves along a long, linear footprint and lacks connectivity to larger remnants of suitable habitat in the local area. Given this, the permit area is unlikely to provide significant habitat for the Mortlock River shield-backed trapdoor spider.

The hooded plover, common greenshank and marsh sandpiper are migratory waterbirds associated with permanently inundated flats including coastal mudflats, sandy beaches and inland wetlands (Commonwealth of Australia, 2015). As the permit area is predominantly Eucalyptus woodland and includes only small areas of seasonally inundated saline flats, it is not expected that the permit area comprises suitable or significant habitat for these species. Carter's freshwater mussel is associated with permanent freshwater watercourses with overhanging riparian vegetation (TSSC, 2018). As the permit area includes only non-perennial minor watercourses, it is not considered likely that it provides suitable or significant habitat for Carter's freshwater mussel. With consideration of the site characteristics, relevant data sets and the habitat preferences and distribution of the aforementioned species, it is not considered likely that the permit area will provide suitable or significant habitat for any additional fauna species that were not considered during the previous assessment of the permit.

Given the above, it is considered that the assessment of impacts to fauna species remains unchanged from the previous assessment of the permit and that the proposed clearing will result in a significant residual impact to habitat for Carnaby's cockatoo and the red-tailed phascogale. As discussed below, the existing offset condition to fund the purchase of 261 hectares of land containing foraging and potential breeding habitat for Carnaby's cockatoo and the red-tailed phascogale in Very Good (Keighery, 1994) condition is considered sufficient to counterbalance the significant residual impacts of the proposed clearing with respect to fauna habitat. However, it is noted that the previous permit does not include measures to mitigate direct impacts to individuals that may be utilising the area at the time of clearing. Fauna management conditions requiring the inspection of habitat trees by a fauna specialist to identify evidence of use by Carnaby's cockatoo and the red-tailed phascogale immediately prior to clearing will be applied to the amended clearing permit to mitigate this risk. Where a habitat tree proposed to be cleared shows evidence of use as a breeding tree by Carnaby's cockatoo, the tree must not be cleared while it is still in use for that breeding season and the Permit Holder must install an artificial black cockatoo nest hollow for every hollow with evidence of current use identified in trees proposed to be cleared. Where a habitat tree proposed to be cleared shows evidence of use by the red-tailed phascogale, the tree can only be cleared once it is no longer occupied.

Ecological communities

It is acknowledged that the vegetation within the application area is representative of the Eucalypt Woodlands of the Western Australian Wheatbelt (Wheatbelt Woodlands) federally listed TEC and state-listed PEC. Proposed impacts to the Wheatbelt Woodlands TEC/PEC are unchanged from the previous assessment of the permit and remain a significant residual impact that had been offset. A review of current environmental information identified no new records of threatened or priority ecological communities in the local area that were not considered during the previous assessment of the permit. It is also acknowledged that the extent of native vegetation in the local area and the mapped vegetation associations present are inconsistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001). As the permit area includes underrepresented vegetation associations and vegetation representative of a TEC/PEC, comprises significant fauna habitat, and may include conservation signficant flora, the vegetation proposed to be cleared is considered significant as a remnant of native vegetation in an extensively cleared area. A review of current environmental information identified that the permit area includes vegetation mapped within Beard vegetation association 694, which was not discussed during the previous assessment of the permit. However, Beard vegetation association 694 is described as scrub-heath on yellow sandplain banksia-xylomelum alliance (Shepherd et al, 2001). Given the permit area includes predominantly woodland with areas of mixed heath or samphire shrubland and lacks the indicator species of this association, it is not considered likely that the vegetation within the permit area is representative of Beard vegetation association 694 or that impacts to this association require further consideration. Therefore, the extent of the proposed clearing of significant remnant vegetation is unchanged from the previous assessment of the permit and remains a significant residual impact. Given the above, it is considered that the assessment of impacts to significant remnant vegetation are unchanged from the previous assessment of the permit and can be found in the Decision Report for CPS 6800/1. As discussed below, the existing offset condition to fund the purchase of 261 hectares of land within the Shires of York, Beverley and Quairading containing vegetation representative of the Wheatbelt Woodlands TEC/PEC and underrepresented vegetation types in Very Good (Keighery, 1994) condition is considered sufficient to counterbalance the significant residual impacts of the proposed clearing with respect to significant vegetation.

Conservation areas

The permit area is adjacent to various unnamed nature reserves and Crown reserves, and may assist in facilitating vegetation connectivity between these reserves and within the extensively cleared local area. However, it is noted that the remaining vegetation within the permit area has been severely fragmented through historical clearing for agriculture, the existing road infrastructure and clearing already undertaken under this permit. As a result, vegetation within the permit area is sparse, poorly connected and includes only small, intermittent areas of high condition vegetation that provide linkage to larger remnants of habitat, including local conservation areas. Therefore, the vegetation within the permit area is unlikely to significantly contribute to connectivity between local conservation reserves and the assessment of impacts to conservation areas is unchanged from the previous assessment of the permit and can be found in the Decision Report for CPS 6800/1. The existing weed management condition is considered sufficient to mitigate potential impacts to adjacent conservation areas.

Land and water resources

In regards to land and water resources, a desktop assessment identified no new environmental information that would significantly alter the previous assessment of the permit. It is acknowledged that the permit area intersects the Mackie River at one location, as well as intersecting a number of non-perennial watercourses and a seasonally inundated flat, and is considered to be growing in, or in association with, a watercourse or wetland. The permit area also includes vegetation growing within drainage lines adjacent to existing road infrastructure and occurs within the Avon River Catchment Area, a surface water resource proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). However, noting the extent of the proposed clearing of riparian vegetation across a long, linear footprint, it is not considered likely that the proposed clearing will result in significant impacts to the environmental values of the associated watercourses, or result in significant impacts to surface or groundwater resources. Groundwater salinity within the permit area is mapped as 14,000 to >35,000 milligrams per litre total dissolved solids, which is considered highly saline. The soils within the permit area are also mapped as having a moderate to high risk of land degradation resulting from flooding, waterlogging, subsurface acidification and phosphorus export (DPIRD, 2021). It is acknowledged that, given the extensively cleared local area, the proposed clearing has the potential to facilitate land degradation, in particular through increasing salinity. However, given the extent of clearing along a long, linear footprint and noting the sparse distribution of remaining vegetation along the clearing footprint, it is not considered likely that the proposed clearing will result in appreciable land degradation or cause, or exacerbate, the incidence or intensity of flooding or waterlogging in the local area. Therefore, the assessment of impacts to land and water resources remains unchanged from the previous assessment of the permit and can be found in the Decision Report for CPS 6800/1.

Assessment relating to offset proposal

As discussed above, a review of current environmental information indicates that the environmental values present within the permit area remain largely unchanged from the previous assessment of the permit. Therefore, the proposed clearing will result in significant residual impacts to vegetation that is representative of the Wheatbelt Woodlands TEC/PEC, foraging and breeding habitat for Carnaby's cockatoo and the red-tailed phascogale, and vegetation that is significant as a remnant of native vegetation in an area that has been extensively cleared.

It is acknowledged that the listing advice for the Wheatbelt Woodlands TEC/PEC has not changed since December 2015 (DoE, 2015), and that the extent of vegetation that was considered consistent with the patch size and condition thresholds for the Wheatbelt Woodlands TEC/PEC during the previous assessment of the permit in 2016, is also unlikely to have changed. Similarly, it is noted that the definition of significant habitat for Carnaby's cockatoo (DPAW, 2013; Commonwealth of Australia, 2012) and the red-tailed phascogale (TSSC, 2016) have not significantly changed since the previous assessment of the permit in 2016. With consideration of the current listing advice, current environmental information, and the location of the permit area in a highly cleared landscape adjacent to existing infrastructure, it is not expected that the findings of the 2014 biological surveys would have significantly changed with respect to the extent of significant habitat for fauna or the extent of vegetation representative of the Wheatbelt Woodlands TEC/PEC within the permit area. Therefore, the residual impacts of the proposed clearing are considered unchanged from the previous assessment of the permit.

Offset proposal

The assessment of CPS 6800/1 stated that the proposed clearing would lead to the following significant residual impacts:

- The loss of 15.33 hectares of vegetation representative of the Wheatbelt Woodlands TEC/PEC,
- The loss of 35.59 hectares of significant foraging habitat and 592 potential nesting trees for Carnaby's cockatoo,
- The loss of 38.2 hectares of significant foraging and breeding habitat for red-tailed phascogale, and
- The loss of 38.85 hectares of native vegetation considered to be a significant remnant of native vegetation in an area that has been extensively cleared.

These values are quoted directly from the supporting information prepared for CPS 6800/1, which summarised the environmental values identified through a desktop assessment and biological surveys undertaken by GHD across the entire project area (GHD, 2015). A review of the supporting information indicates that the values listed above represent summations of all occurrences of the Wheatbelt Woodlands TEC/PEC, foraging habitat and nesting trees for Carnaby's cockatoo, and foraging and breeding habitat for the red-tailed phascogale, identified across the entire application area. Noting that the extent of vegetation representative of the Wheatbelt Woodlands TEC/PEC and the extent of significant habitat for fauna within the permit area is not considered likely to have changed since the previous assessment, the values above are considered to accurately represent the significant residual impacts of the clearing proposed under the amended permit.

Given the residual impacts of the proposed clearing are unchanged from the previous assessment of the permit, the existing offset involving a monetary contribution towards the purchase of 261 hectares of remnant vegetation that includes 261 hectares of Wheatbelt Woodlands TEC/PEC, 261 hectares of habitat for Carnaby's cockatoo and red-tailed phascogale, and 261 hectares of native vegetation that is considered to be a significant remnant in an area that has been extensively cleared, remains sufficient to counterbalance the significant residual impacts of the clearing proposed. This offset requirement is aligned with the offset conditioned under a related approval under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC 2015/7536) and remains consistent with the *WA Environmental Offset Policy* (2011), *WA Environmental Offsets Guidelines* (2014) and *EPBC Act Environmental Offsets Policy* (2012).

Offset site

It should also be noted that the Permit Holder has met the offset requirements outlined in condition 8 of CPS 6800/1. With the funds provided in accordance with condition 8 of CPS 6800/1, a total of 365.94 hectares of remnant native vegetation was purchased. The vegetation occurs across five adjoining lots totalling 407.4 hectares, each entirely covered by remnant native vegetation (see Figure 2) and managed in perpetuity by the Department of Biodiversity Conservation and Attractions (DBCA). The difference of 41.46 hectares was funded through offset fund contributions received as a result of clearing permit conditions imposed on three other Main Roads Western Australia projects:

- CPS 818/11 - Narrogin Link Road Stage 2 South - 5.8 hectares
- CPS 818/11 - York Merredin Road widening and Dangin Mears Road intersection SLK 51-66 - 30.86 hectares
- CPS 818/12 - Narrogin Link Road Stage 3 North - 4.8 hectares

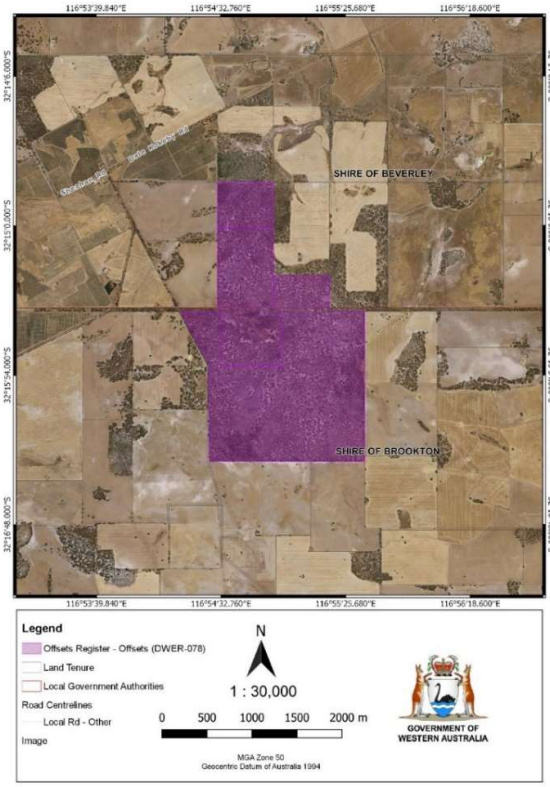


Figure 3. The area cross-hatched pink indicates the offset site purchased from the monetary contributions received under condition 8 of CPS 6800/1.

Based on information obtained from a site inspection undertaken by then Department of Environment Regulation (DER) officers, it is considered that the five lots contain the following environmental values:

- suitable foraging, nesting, and roosting habitat for black cockatoo species;
- suitable foraging and breeding habitat for red-tailed phascogale;
- approximately 278 hectares of vegetation representative of the threatened ecological community Eucalypt Woodlands of the Western Australian Wheatbelt; and
- vegetation that is significant as a remnant in an area that has been extensively cleared, as the vegetation is mapped as Beard vegetation association 946 which retains approximately 19 per cent of its pre-European extent in the Avon Wheatbelt bioregion.

The majority of the vegetation is dominated by wandoo and was considered to be in Very Good (Keighery, 1994) condition or better. Large trees with hollows were observed regularly throughout the offset site. Potential evidence of black cockatoo foraging on *Banksia prionotes* was also observed and black cockatoo calls were heard from nearby vegetation.

Given the above, the offset is considered to be relevant and proportionate to the significance of the environmental values being impacted and is considered to counterbalance the residual impacts of the project.

Planning instruments and other relevant matters.

The clearing permit amendment application was advertised on the Department of Water and Environmental Regulation's website on 1 May 2021, inviting submissions from the public within a 28 day period. No submissions were received in relation to this application.

The Shires of Beverley, Quairading and York were invited to provide comments on the proposed amendment to CPS 6800/1. To date, no response has been received from any Shire.

The permit area intersects two Aboriginal Sites of Significance; Avon River and Jacob's Well. 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.

Relevant matters relating to the grant of CPS 6800/1

Clearing Permit CPS 6800/1 was granted to Main Roads Western Australia by the then Department of Environment Regulation (DER) on 30 June 2016. The clearing permit authorises the clearing of native vegetation with various properties, Crown reserves and road reserves within the localities of Dulbelling, East Beverley, Gilgering, Green Hills and Kauring, for the purpose of widening York Merredin Road. Records indicate that approximately 11.37 hectares of project-related clearing has been undertaken to date (Table 1). However, it should be noted that this figure includes 7.44 hectares of project-related clearing undertaken in a western area that was assessed under CPS 6800/1 but due to an administrative error the map was not digitised for the permit and technically the area was excluded from that authorisation (refer also to the section below). Therefore, approximately 3.93 hectares of clearing has been undertaken under CPS 6800/1, since the commencement of the permit in 2016.

Table 1. Clearing undertaken to date under Clearing Permit CPS 6800/1 (MRWA, 2020).

Item	Approved Area	Area of Clearing Undertaken to Date
Maximum Total Clearing	38.85 hectares	11.37 hectares
Clearing of Carnaby's black cockatoo (*Calyptorhynchus latirostris*) foraging habitat	35.69 hectares	9.13 hectares
Clearing of Carnaby's black cockatoo potential breeding trees	592 trees	210 trees
Clearing of red-tailed phascogale (*Phascogale calura*) habitat	38.2 hectares	10.33 hectares

Three appeals were lodged to the Office of the Appeals Convenor (OAC) in objection to the decision of the DER to grant clearing permit 6800/1 in 2016 (OAC, 2016). The appellants submitted that the permit should not have been granted as there were a number of clearing principles that were at variance and that the impacts of the clearing would lead to a net loss of habitat for various species and communities that could not be counterbalanced through environmental offsets (OAC, 2016). On 2 November 2016, the Minister for Environment determined that the DER was justified in its decision to grant clearing permit and dismissed the appeals. In making this determination, the Minister considered that the assessment of the clearing permit against the clearing principles was appropriate, had been undertaken in accordance with published policies and procedures, and relied on relevant biological survey data and that, in making its decision, DER had regard to the purpose of the clearing, notably the requirement to widen the road to support increased traffic and improve road safety (OAC, 2016). The Minister also considered that the monetary offset imposed as a condition of the clearing permit was consistent with the Western Australian Government policy of applying offsets to counterbalance the significant residual environmental impacts of projects (OAC, 2016).

The assessment of Clearing Permit CPS 6800/1 was undertaken through an accredited environmental assessment process between the Commonwealth and State governments, pursuant to a bilateral agreement established under the EPBC Act. The associated approval under the EPBC Act is EPBC 2015/7536, which was approved subject to conditions on 15 November 2016. On 29 April 2021, the Commonwealth Department of Water, Agriculture and the Environment (DAWE) approved an extension to the period of effect of EPBC 2015/7536, allowing the approval to have effect until 30 July 2031. The extension to the period in which clearing is authorised under CPS 6800/2 aligns with the new expiry date of EPBC 2015/7536.

Relevant matters relating to the extent of the application area

On reviewing the amendment application, the Permit Holder noted that the digitised clearing footprint approved under CPS 6800/1 had omitted a 41.5-hectare area approximately four kilometres west of the existing clearing permit area (see Figure 2; MRWA, 2021b). The omitted area was included in the original application documents (GHD, 2015), was surveyed during biological surveys

undertaken by GHD in 2014 and was included in the approved footprint under the related *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval (EPBC 2015/7536) in 2016. A review of DWER's records suggested that the omission was due to an administrative error during the validation of the CPS 6800/1 application.

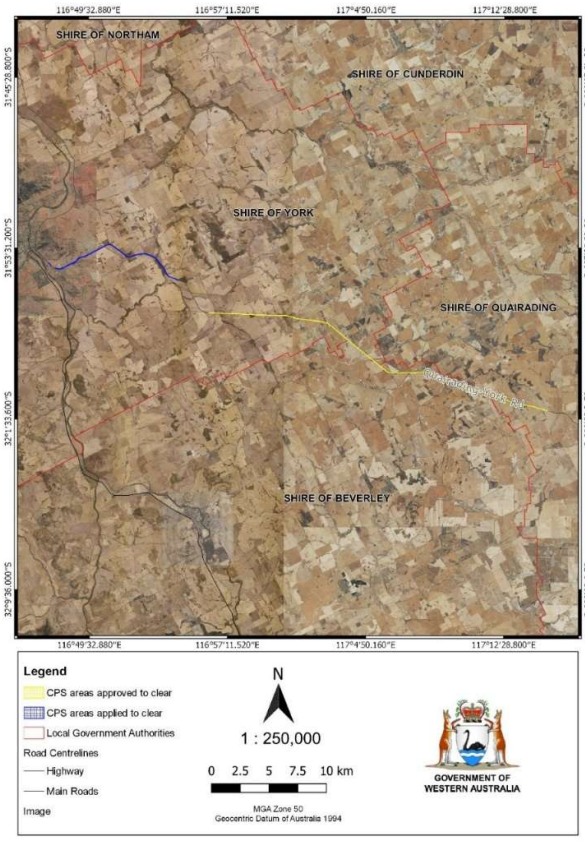


Figure 2. The area crosshatched blue indicates the westernmost area omitted from CPS 6800/1 and the area crosshatched yellow indicates the area authorised to be cleared under CPS 6800/1.

The Permit Holder advised that the clearing required in the omitted area has been completed, with 7.44 hectares of project-related clearing undertaken in this westernmost area since the commencement of the permit during 2016 (MRWA, 2021b). This clearing was done by the Permit Holder under the assumption that it was authorised under CPS 6800/1; it was captured in the annual reporting for this permit, supplied to DWER in accordance with the permit conditions.

To rectify the omission and align the amended permit with the footprint approved under EPBC 2015/7536, the Permit Holder initially requested an amendment to the clearing footprint for CPS 6800/1 to include the omitted area (MRWA, 2021b). However, noting the clearing already undertaken in the omitted area and that no further clearing in this area is required, the Delegated Officer determined that the omitted area should not be included in the amended permit. Further, to account for the 7.44 hectares of clearing in the omitted area that was not authorised under CPS 6800/1, the Delegated Officer determined that the total clearing authorised under the amended permit should be reduced to no more than 31.41 hectares of native vegetation. The Delegated Officer considered that the environmental offset should remain as originally calculated, counterbalancing the clearing of a total of 38.85 hectares of native vegetation considered to be a significant remnant of native vegetation in an area that has been extensively cleared.

The remaining assessment against other *Relevant planning instruments and other matters* is unchanged and can be found in the Decision Report prepared for Clearing Permit CPS 6800/1.

End

Appendix A. 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*					
Avon Wheatlbelt	9,517,109.95	1,761,187.42	18.51	174,980.68	1.84
Beard Vegetation Complex					
1049	833,384.77	56,618.34	6.79	3375.83	0.41
352	724,268.73	142,012.22	19.61	13066.00	1.75
694	346,493.81	67,461.89	19.47	32056.44	9.25
947	33,788.45	11,703.37	34.64	4717.40	13.96
Beard Vegetation Complex in IBRA bioregion*					
1049 (Avon Wheatlbelt)	833,384.77	56,618.34	6.79	3375.83	0.41
352 (Avon Wheatlbelt)	630,577.61	108,887.52	17.27	10191.45	1.62
694 (Avon Wheatlbelt)	173,921.56	12,637.36	7.27	1820.10	1.05
947 (Avon Wheatlbelt)	33,772.64	11,691.41	34.62	4705.44	13.93
Local area					
10 kilometre radius	127,347.24	15,924.36	12.50	-	-

*Government of Western Australia (2019)

Appendix B. Flora analysis table

With consideration for the site information set out above, relevant current datasets (see Appendix **Error! Reference source not found.**), past biological survey information (GHD, 2014), and the extent and distribution of existing records, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
Acacia ataxiphylla subsp. *magna*	T	Y	Y	Y	7.7	3	N
Allocasuarina fibrosa	T	Y	Y	Y	0.9	6	N
Androcalva fragifolia	P1	Y	Y	Y	9.3	2	N
Anigozanthos bicolor subsp. *exstans*	P3	Y	Y	Y	3.3	1	N
Eremophila glabra subsp. York (P.G. Wilson 12172 B)	P1	Y	Y	Y	0.0	8	Y
Guichenotia seorsiflora	T	Y	Y	Y	3.4	4	N
Hakea aculeata	T	Y	Y	Y	1.1	4	N
Hemigenia platyphylla	P4	N	Y	Y	4.8	8	Y
Melaleuca sciotostyla	T	Y	Y	Y	2.7	5	N
Stylidium coroniforme subsp. *amblyphyllum*	T	Y	Y	Y	2.7	13	N
Thomasia glabripetala	T	Y	Y	Y	0.2	20	N
Thomasia montana	T	Y	Y	Y	3.7	14	N

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

Appendix C. Fauna analysis table

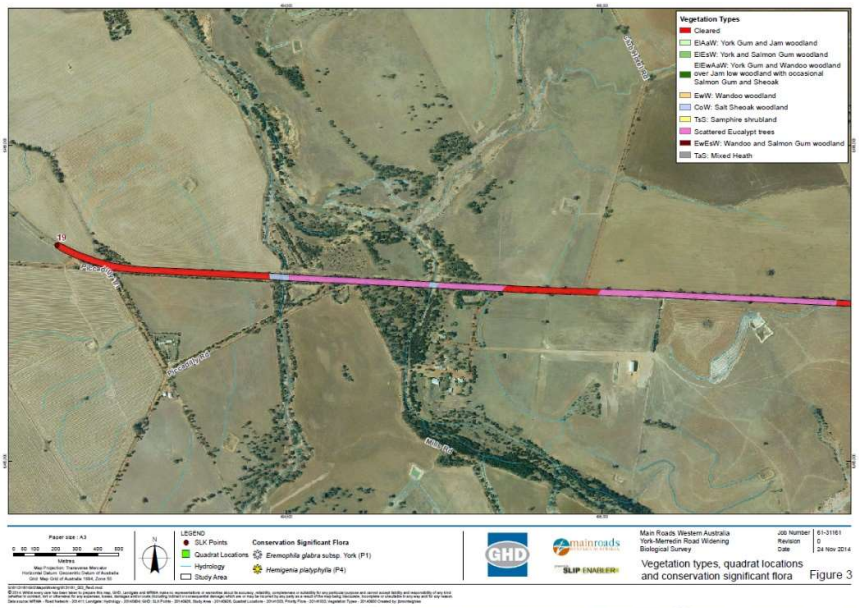
With consideration for the site information set out above, relevant current datasets (see Appendix **Error! Reference source not found.**), past biological survey information (GHD, 2014), and the extent and distribution of existing records, impacts to the following conservation significant fauna required 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 in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
Bettongia lesueur graii (Burrowing bettong (inland))	EX	Y	Y	7.6	1	Y
Calyptorhynchus latirostris (Carnaby's cockatoo)	EN	Y	Y	0.5	10	Y
Idiosoma schoknechtorum (Mortlock River shield-backed trapdoor spider)	P3	N	Y	2.4	8	N
Phascogale calura (Red-tailed phascogale)	CD	Y	Y	1.1	2	Y
Thinornis rubricollis (Hooded plover)	P4	N	N	2.2	1	Y
Tringa nebularia (Common greenshank)	MI	N	N	10.0	1	Y
Tringa stagnatilis (Marsh sandpiper)	MI	N	N	10.0	1	Y
Westralunio carteri (Carter's freshwater mussel)	VU	N	Y	8.1	2	N

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, EX: extinct, MI: migratory species; CD: Species of special conservation interest (conservation dependent fauna).

Appendix D. Biological survey information excerpts

a)



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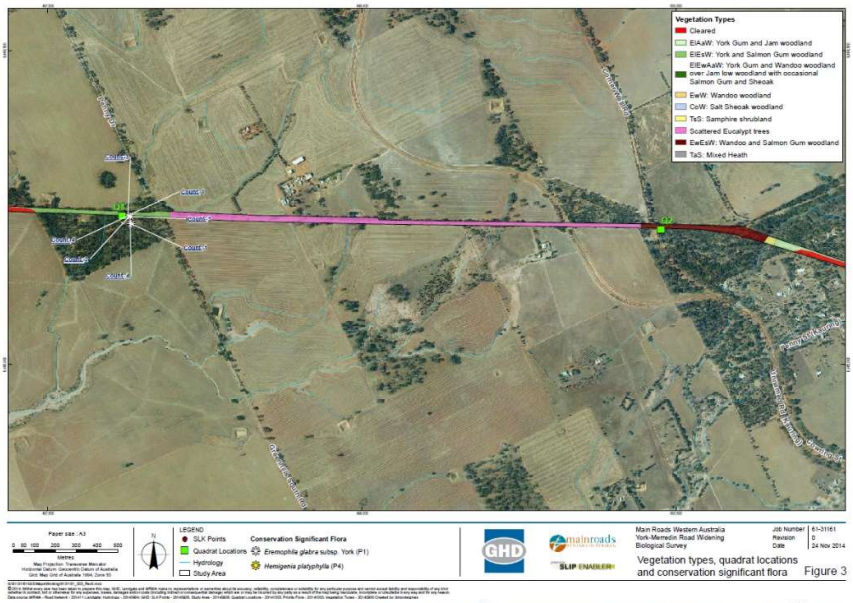

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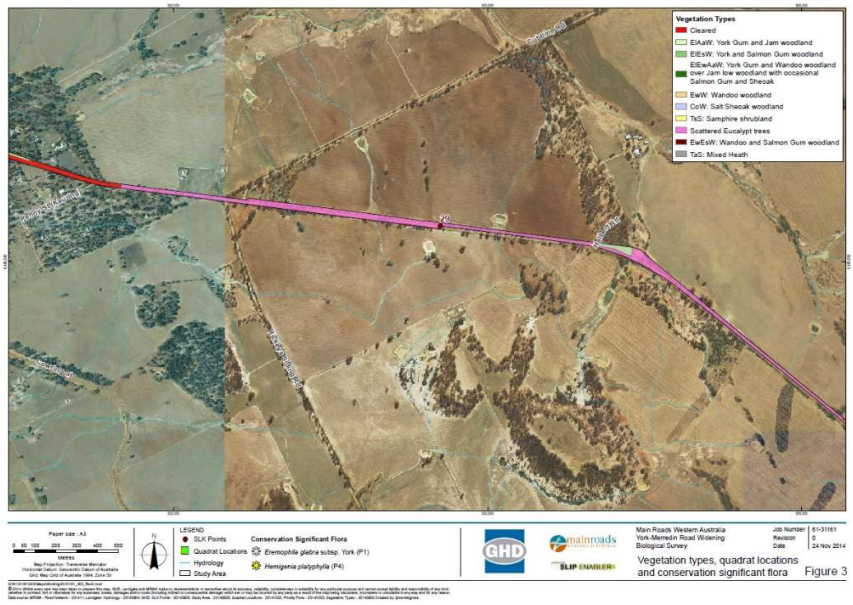

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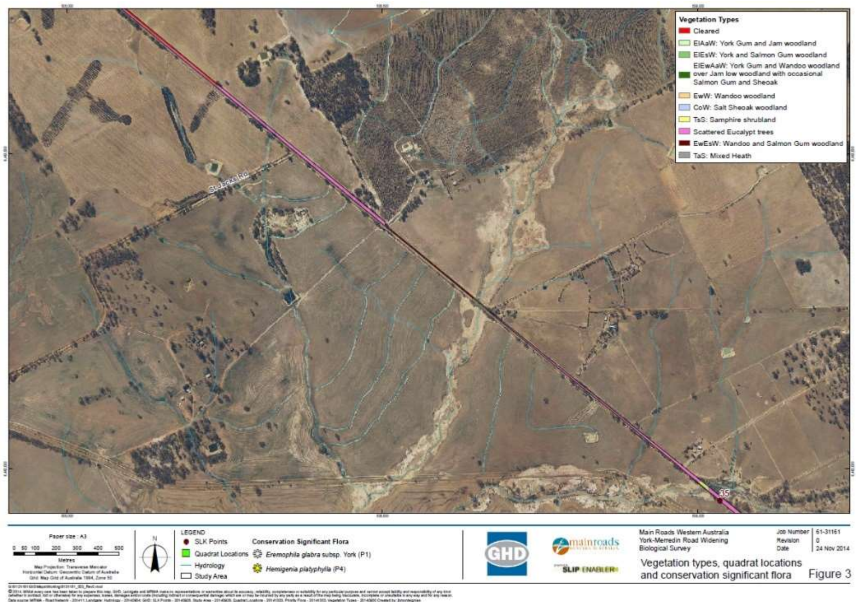
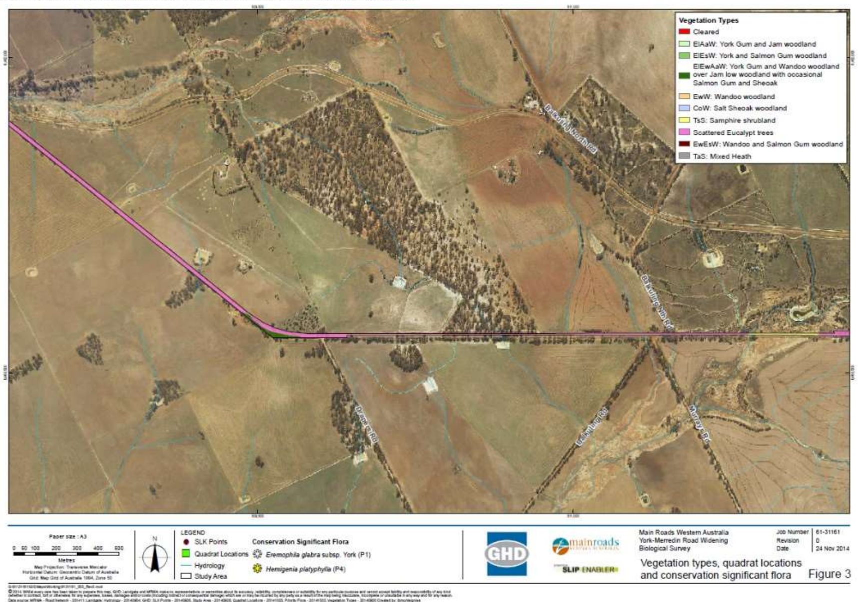


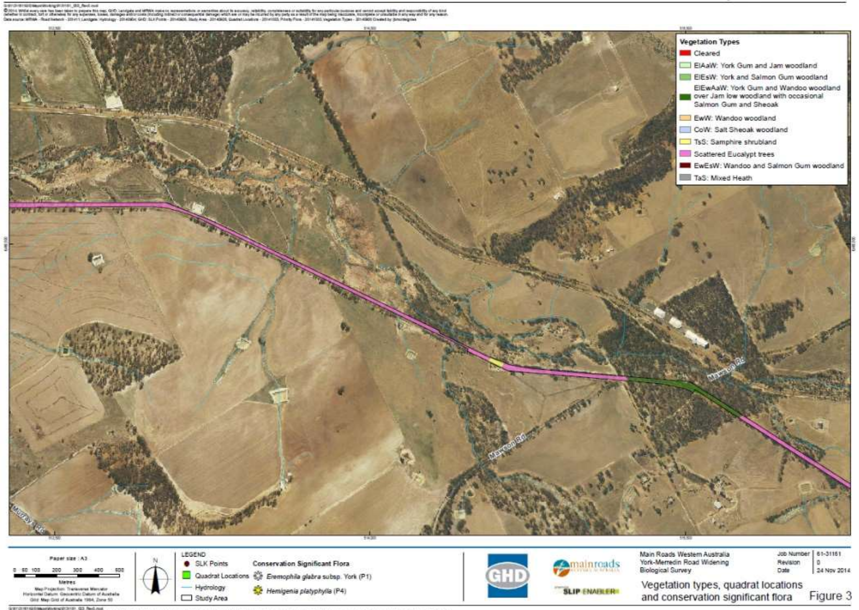
Vegetation Types
Cleared
EIAaW: York Gum and Jam woodland
EIEsW: York and Salmon Gum woodland
EIEwAaW: York Gum and Wandoo woodland over Jam low woodland with occasional Salmon Gum and Sheoak
EwW: Wandoo woodland
CoW: Salt Sheoak woodland
TsS: Samphire shrubland
Scattered Eucalypt trees
EwEsW: Wandoo and Salmon Gum woodland
TaS: Mixed Heath
LEGEND
SLK Points
Quadrat Locations
Hydrology
Study Area
Conservation Significant Flora
Eremophila glabra subsp. York (P1)
Hemigenia platyphylla (P4)
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation types, quadrat locations and conservation significant flora
Figure 3

e)



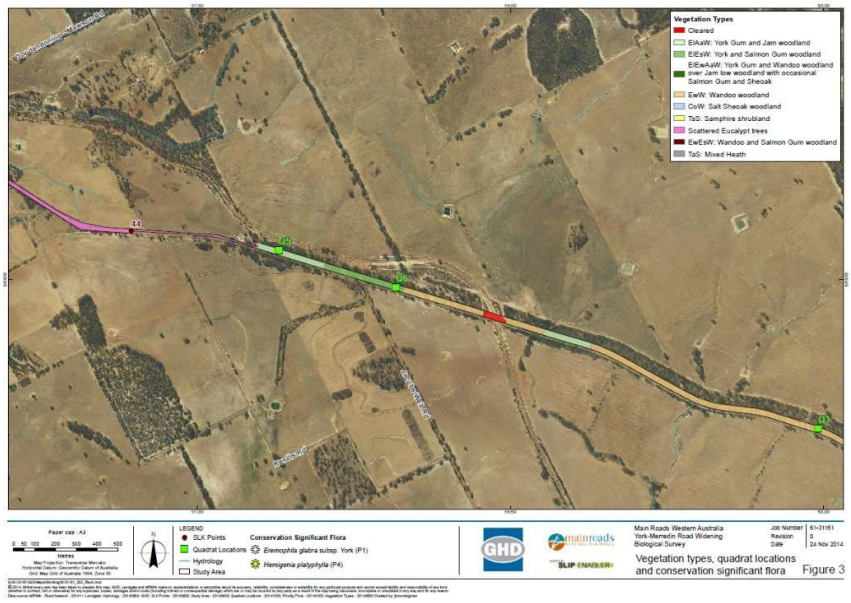
Vegetation Types
Cleared
EIAaW: York Gum and Jam woodland
EIEsW: York and Salmon Gum woodland
EIEwAaW: York Gum and Wandoo woodland over Jam low woodland with occasional Salmon Gum and Sheoak
EwW: Wandoo woodland
CoW: Salt Sheoak woodland
TsS: Samphire shrubland
Scattered Eucalypt trees
EwEsW: Wandoo and Salmon Gum woodland
TaS: Mixed Heath
LEGEND
SLK Points
Quadrat Locations
Hydrology
Study Area
Conservation Significant Flora
Eremophila glabra subsp. York (P1)
Hemigenia platyphylla (P4)
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation types, quadrat locations and conservation significant flora
Figure 3

f)



Vegetation Types
Cleared
EIAaW: York Gum and Jam woodland
EIEsW: York and Salmon Gum woodland
EIEwAaW: York Gum and Wandoo woodland over Jam low woodland with occasional Salmon Gum and Sheoak
EwW: Wandoo woodland
CoW: Salt Sheoak woodland
TsS: Samphire shrubland
Scattered Eucalypt trees
EwEsW: Wandoo and Salmon Gum woodland
TaS: Mixed Heath
LEGEND
SLK Points
Quadrat Locations
Hydrology
Study Area
Conservation Significant Flora
Eremophila glabra subsp. York (P1)
Hemigenia platyphylla (P4)
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation types, quadrat locations and conservation significant flora
Figure 3

g)



h)

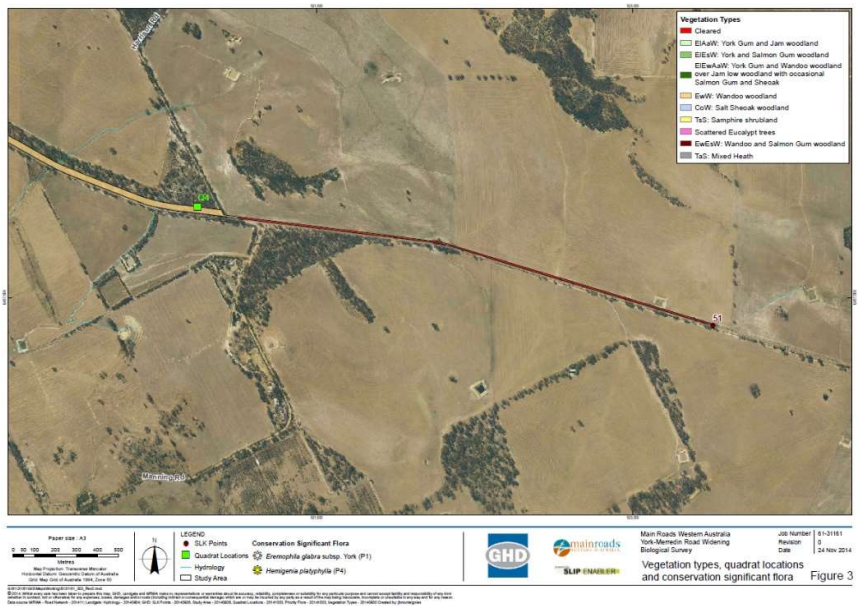
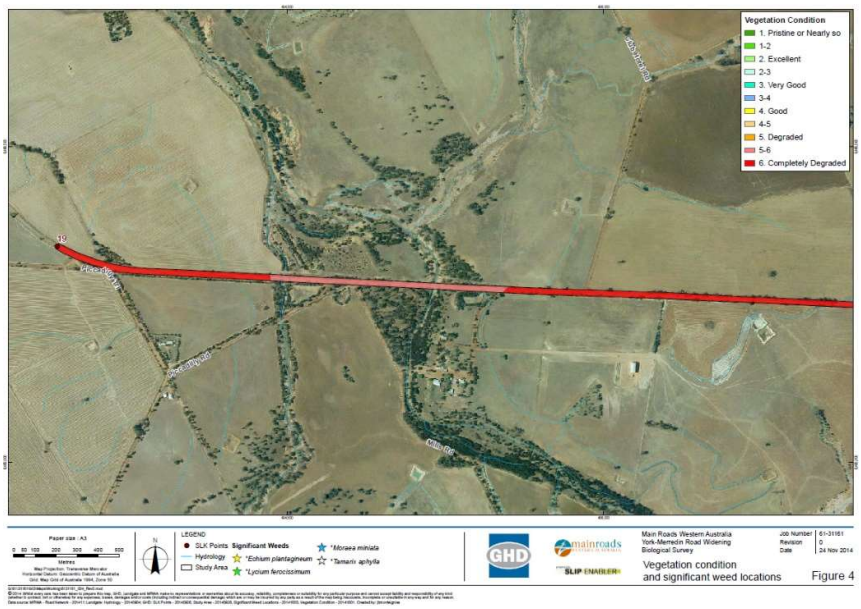
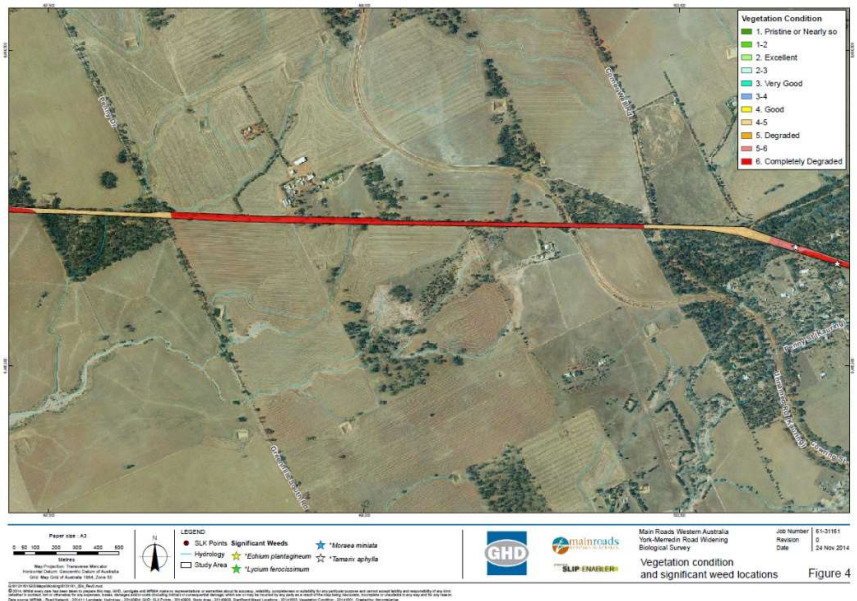


Figure 4(a-h). Vegetation types, quadrat locations and conservation significant flora identified during biological surveys undertaken for CPS 6800/1 (GHD, 2014).

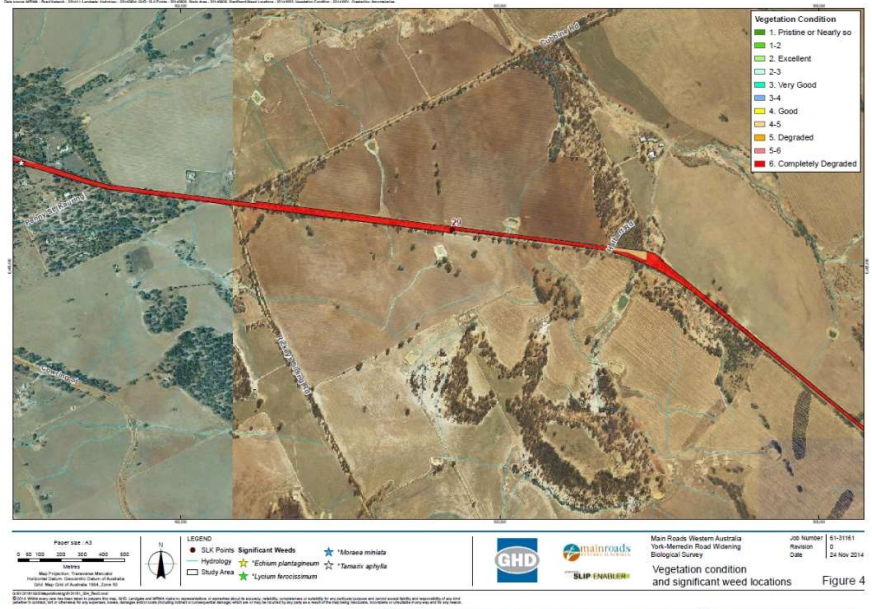
a)



b)


Vegetation Condition
1. Pristine or Nearly so
1-2
2. Excellent
2-3
3. Very Good
3-4
4. Good
4-5
5. Degraded
5-6
6. Completely Degraded
LEGEND
SLK Points Significant Weeds
Hydrology
Study Area
*Moraea miniata
*Echium plantagineum
*Tamarix aphylla
*Lycium ferocissimum
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation condition
and significant weed locations
Figure 4

c)


Vegetation Condition
1. Pristine or Nearly so
1-2
2. Excellent
2-3
3. Very Good
3-4
4. Good
4-5
5. Degraded
5-6
6. Completely Degraded
LEGEND
SLK Points Significant Weeds
Hydrology
Study Area
*Moraea miniata
*Echium plantagineum
*Tamarix aphylla
*Lycium ferocissimum
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation condition
and significant weed locations
Figure 4

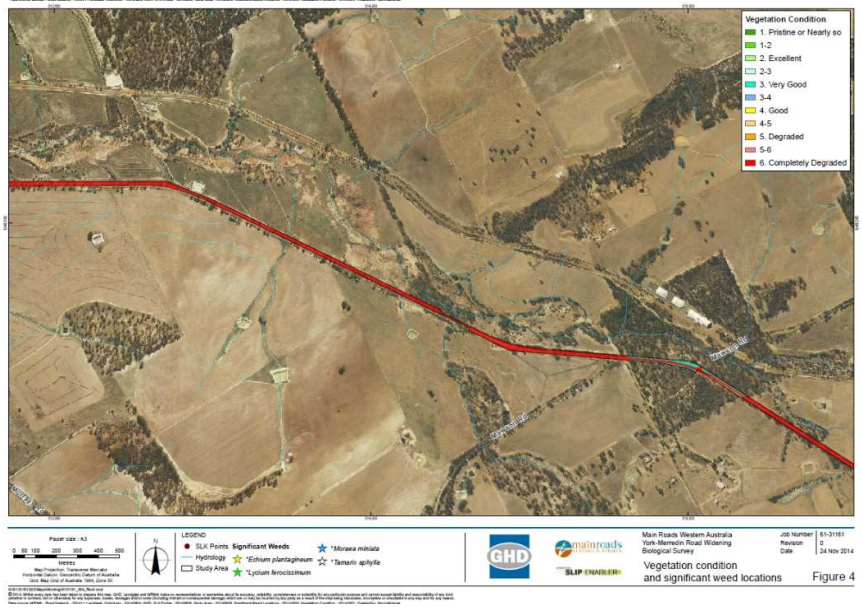
d)


Vegetation Condition
1. Pristine or Nearly so
1-2
2. Excellent
2-3
3. Very Good
3-4
4. Good
4-5
5. Degraded
5-6
6. Completely Degraded
LEGEND
SLK Points Significant Weeds
Hydrology
Study Area
*Moraea miniata
*Echium plantagineum
*Tamarix aphylla
*Lycium ferocissimum
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation condition
and significant weed locations
Figure 4

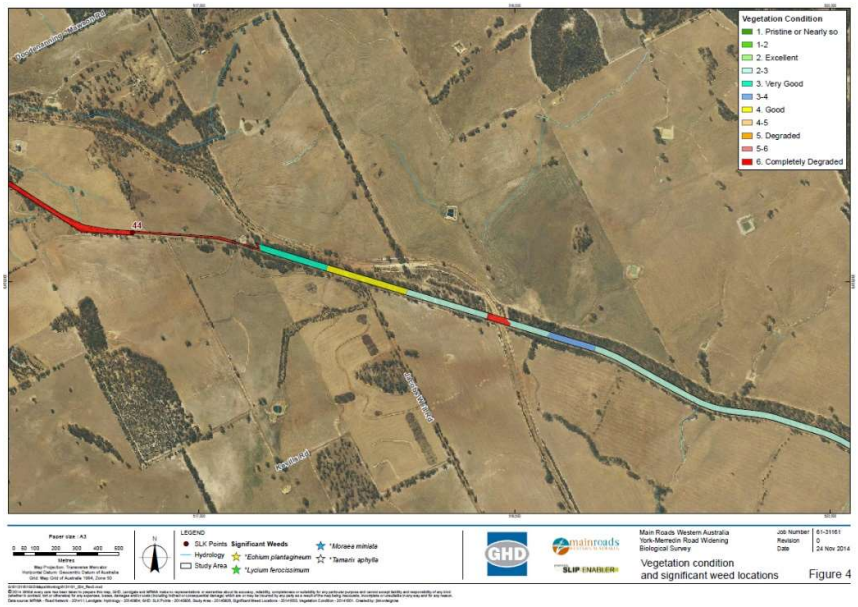
e)


Vegetation Condition
1. Pristine or Nearly so
1-2
2. Excellent
2-3
3. Very Good
3-4
4. Good
4-5
5. Degraded
5-6
6. Completely Degraded
Great Northern Highway
Paper size : A3
LEGEND
SLK Points
Significant Weeds
Hydrology
Study Area
*Moraea miniata
*Echium plantagineum
*Tamarix aphylla
*Lycium ferocissimum
GHD
mainroads
SLIP ENABLER
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation condition
and significant weed locations
Figure 4

f)


Vegetation Condition
1. Pristine or Nearly so
1-2
2. Excellent
2-3
3. Very Good
3-4
4. Good
4-5
5. Degraded
5-6
6. Completely Degraded
Paper size : A3
LEGEND
SLK Points
Significant Weeds
Hydrology
Study Area
*Moraea miniata
*Echium plantagineum
*Tamarix aphylla
*Lycium ferocissimum
GHD
mainroads
SLIP ENABLER
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation condition
and significant weed locations
Figure 4

g)


Vegetation Condition
1. Pristine or Nearly so
1-2
2. Excellent
2-3
3. Very Good
3-4
4. Good
4-5
5. Degraded
5-6
6. Completely Degraded
Great Northern Highway
Paper size : A3
LEGEND
SLK Points
Significant Weeds
Hydrology
Study Area
*Moraea miniata
*Echium plantagineum
*Tamarix aphylla
*Lycium ferocissimum
GHD
mainroads
SLIP ENABLER
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Vegetation condition
and significant weed locations
Figure 4

h)

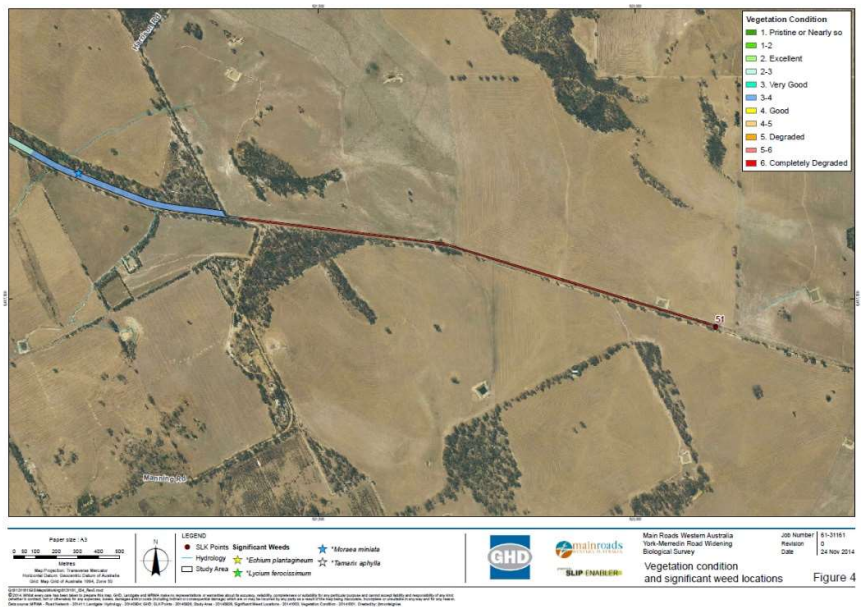
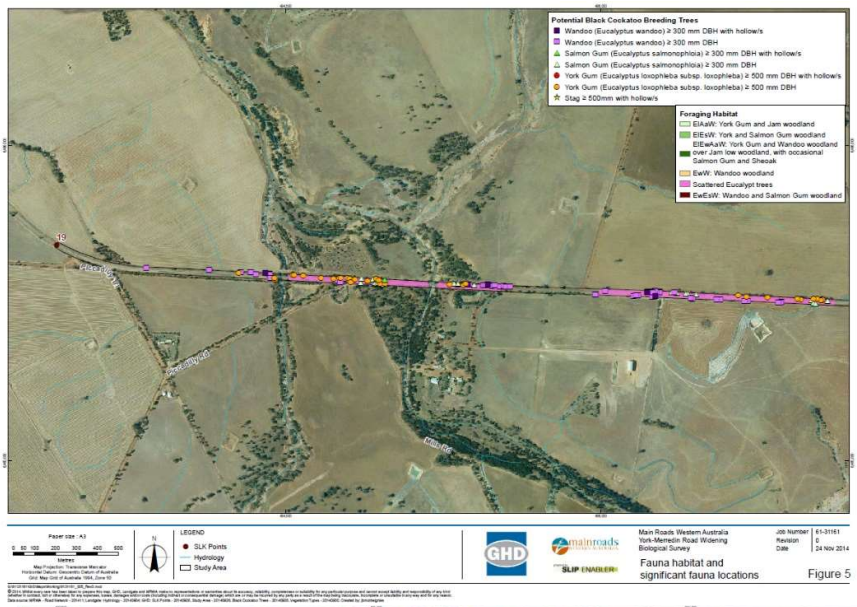
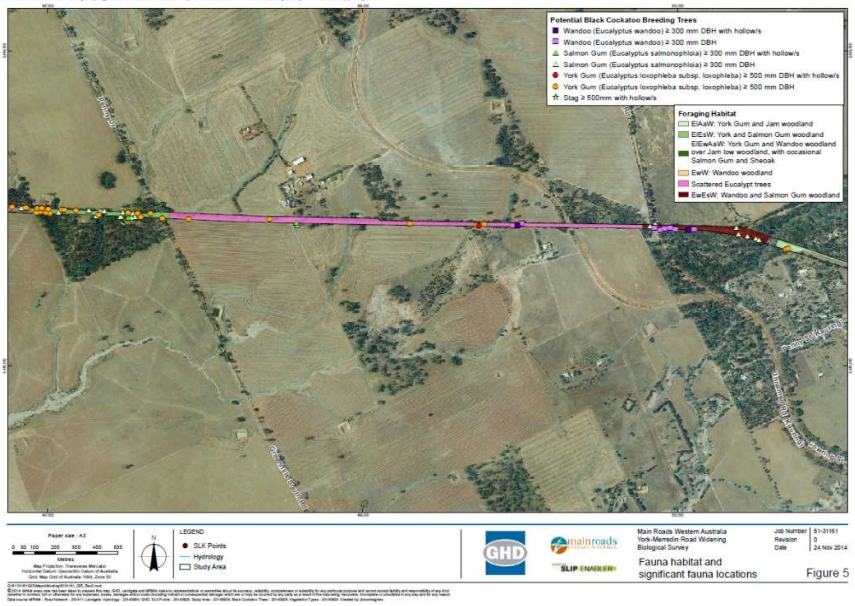


Figure 5(a-h). Vegetation condition and significant weed locations identified during biological surveys undertaken for CPS 6800/1 (GHD, 2014).

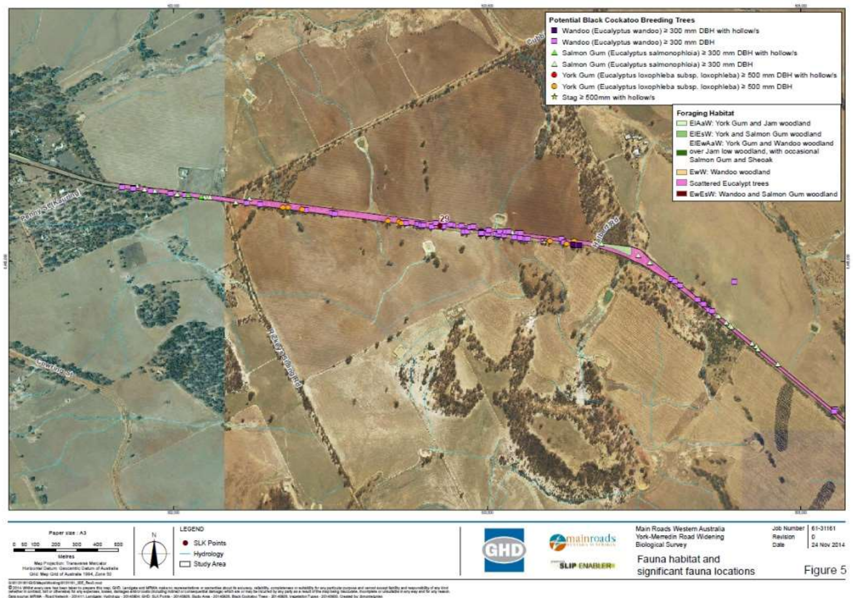
a)



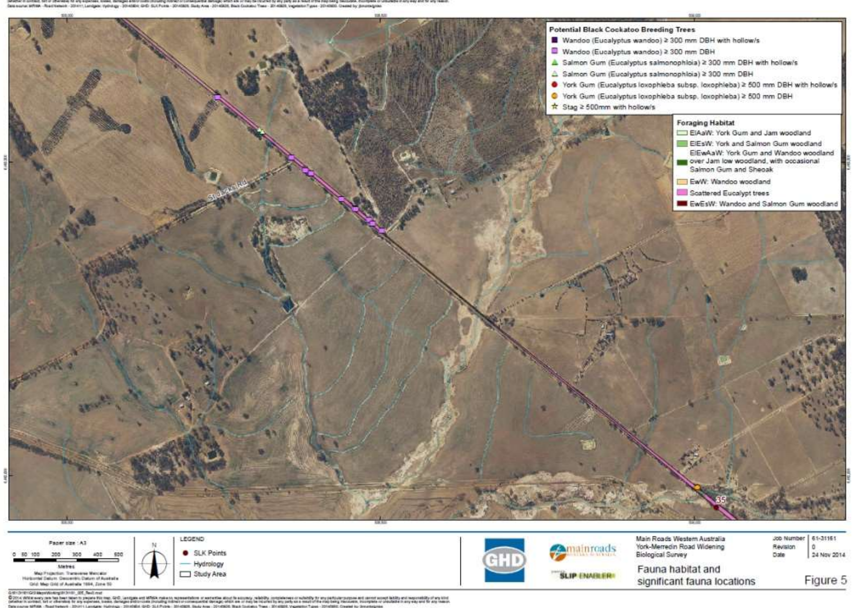
b)



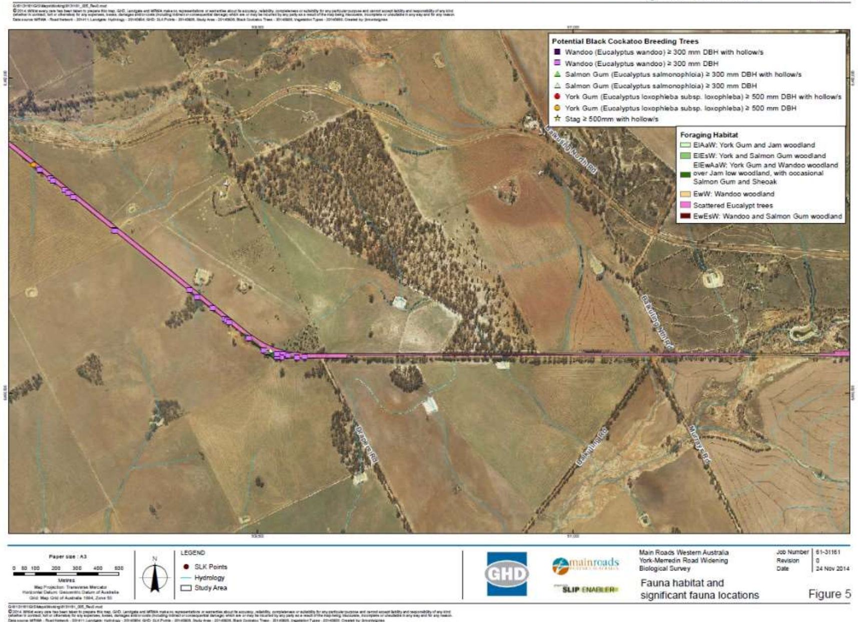
c)


Potential Black Cockatoo Breeding Trees
Wandoo (Eucalyptus wandoo) ≥ 300 mm DBH with hollow/s
Wandoo (Eucalyptus wandoo) ≥ 300 mm DBH
Salmon Gum (Eucalyptus salmonophloia) ≥ 300 mm DBH with hollow/s
Salmon Gum (Eucalyptus salmonophloia) ≥ 300 mm DBH
York Gum (Eucalyptus loxophleba subsp. loxophleba) ≥ 500 mm DBH with hollow/s
York Gum (Eucalyptus loxophleba subsp. loxophleba) ≥ 500 mm DBH
Stag ≥ 500mm with hollow/s
Foraging Habitat
ElAaW: York Gum and Jam woodland
ElEsW: York and Salmon Gum woodland
ElEwAaW: York Gum and Wandoo woodland over Jam low woodland, with occasional Salmon Gum and Sheoak
EwW: Wandoo woodland
Scattered Eucalypt trees
EwEsW: Wandoo and Salmon Gum woodland
Paper size : A3
LEGEND
SLK Points
Hydrology
Study Area
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Fauna habitat and significant fauna locations
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Figure 5

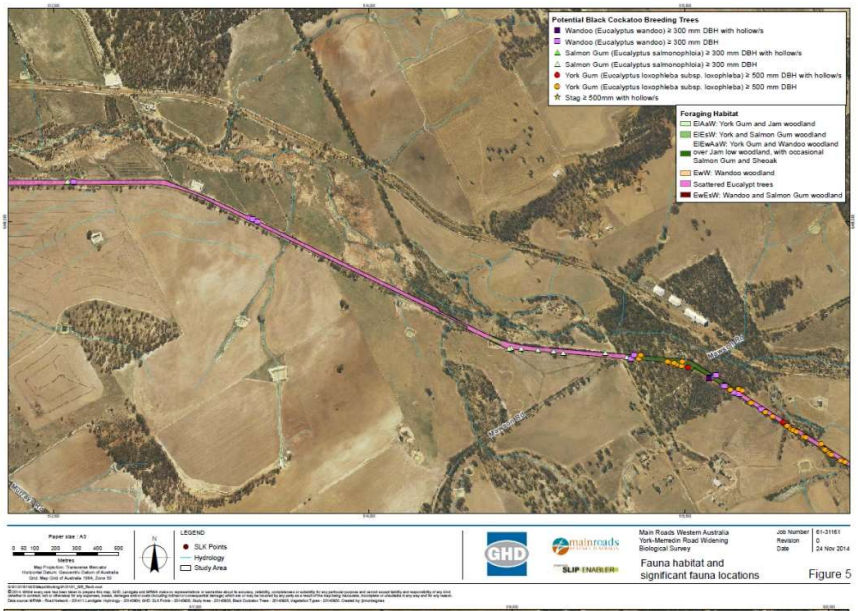
d)


Potential Black Cockatoo Breeding Trees
Wandoo (Eucalyptus wandoo) ≥ 300 mm DBH with hollow/s
Wandoo (Eucalyptus wandoo) ≥ 300 mm DBH
Salmon Gum (Eucalyptus salmonophloia) ≥ 300 mm DBH with hollow/s
Salmon Gum (Eucalyptus salmonophloia) ≥ 300 mm DBH
York Gum (Eucalyptus loxophleba subsp. loxophleba) ≥ 500 mm DBH with hollow/s
York Gum (Eucalyptus loxophleba subsp. loxophleba) ≥ 500 mm DBH
Stag ≥ 500mm with hollow/s
Foraging Habitat
ElAaW: York Gum and Jam woodland
ElEsW: York and Salmon Gum woodland
ElEwAaW: York Gum and Wandoo woodland over Jam low woodland, with occasional Salmon Gum and Sheoak
EwW: Wandoo woodland
Scattered Eucalypt trees
EwEsW: Wandoo and Salmon Gum woodland
Paper size : A3
LEGEND
SLK Points
Hydrology
Study Area
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Fauna habitat and significant fauna locations
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Figure 5

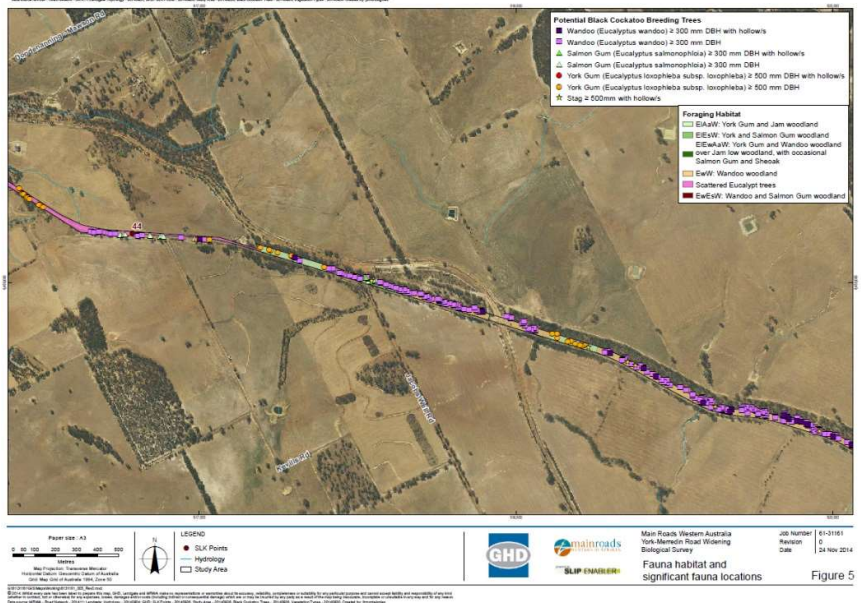
e)


Potential Black Cockatoo Breeding Trees
Wandoo (Eucalyptus wandoo) ≥ 300 mm DBH with hollow/s
Wandoo (Eucalyptus wandoo) ≥ 300 mm DBH
Salmon Gum (Eucalyptus salmonophloia) ≥ 300 mm DBH with hollow/s
Salmon Gum (Eucalyptus salmonophloia) ≥ 300 mm DBH
York Gum (Eucalyptus loxophleba subsp. loxophleba) ≥ 500 mm DBH with hollow/s
York Gum (Eucalyptus loxophleba subsp. loxophleba) ≥ 500 mm DBH
Stag ≥ 500mm with hollow/s
Foraging Habitat
ElAaW: York Gum and Jam woodland
ElEsW: York and Salmon Gum woodland
ElEwAaW: York Gum and Wandoo woodland over Jam low woodland, with occasional Salmon Gum and Sheoak
EwW: Wandoo woodland
Scattered Eucalypt trees
EwEsW: Wandoo and Salmon Gum woodland
Paper size : A3
LEGEND
SLK Points
Hydrology
Study Area
Main Roads Western Australia
York-Merredin Road Widening
Biological Survey
Fauna habitat and significant fauna locations
Job Number 61-31161
Revision 0
Date 24 Nov 2014
Figure 5

f)



g)



h)

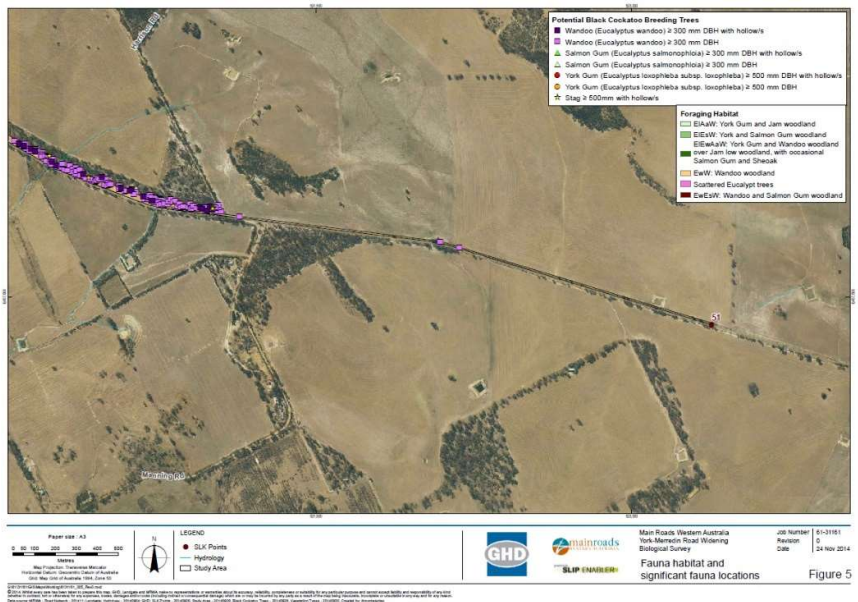


Figure 6 (a-h). Fauna habitat and significant fauna locations identified during biological surveys undertaken for CPS 6800/1 (GHD, 2014).

Appendix E. References

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Threatened Species Scientific Committee (TSSC) (2019) *Conservation Advice Stylidium coroniforme subsp. amblyphyllum*. Department of the Environment and Energy, Canberra. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/85017-conservation-advice-04072019.pdf.

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)
- 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)