GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 7171/2
File Number: 2016/000587-1
Duration of Permit: 28 March 2020 to 23 March 2030

PERMIT HOLDER
Mario Michel Giacci

LAND ON WHICH CLEARING IS TO BE DONE
Lot 393 on Deposited Plan 159607, Gwindinup

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 31.43 hectares of native vegetation within the area hatched yellow on attached Plan 7171/2(a)

CONDITIONS

1. Period in which clearing is authorised
The Permit Holder shall not clear native vegetation unless actively mining within 1 month of the authorised clearing being undertaken.

2. Period in which clearing is authorised
The Permit Holder shall not clear any native vegetation after 25 August 2024.

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

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

5. Black Cockatoo Management
(a) The Permit Holder shall not clear any native vegetation during the breeding season for black cockatoos, being between 1 July and 28 February each year.
(b) Prior to undertaking any clearing or other activity authorised under this Permit, the Permit Holder must install no less than eight artificial black cockatoo nesting hollows within the area hatched red on attached Plan 7171/2(c) being Lot 393 on Deposited Plan 159607, Gwindinup.
(c) The artificial black cockatoo nest hollows of this Permit must:

(d) be designed and placed in accordance with the guidelines provided in Schedule 1 to this Permit; and
(e) be monitored (to determine maintenance requirements) and maintained in accordance with the guidelines provided in Schedule 2 to this Permit, for the duration of this Permit.

6. Retain vegetative material and topsoil, revegetation and rehabilitation

At an *optimal time* during the first winter following clearing authorised under this Permit, the Permit Holder will implement '*Rehabilitation and Decommissioning Program, Lot 393 South Western Highway, Gwindinup*' within any areas no longer required for the purpose for which they were cleared under this permit, including but not limited to the following actions;

(a) retaining the vegetative material removed by clearing authorised under this Permit and stockpiling the vegetative material in an area that has already been cleared;
(b) ripping the ground on the contour to remove soil compaction
(c) spreading the vegetative material and topsoil removed by clearing authorised under this Permit;
(d) establishing two 20 x 20 metre quadrat monitoring sites per hectare within the *revegetated* and *rehabilitated* area (excluding *pasture rehabilitation* areas);
(e) fencing the native vegetation rehabilitation areas as defined within '*Rehabilitation and Decommissioning Program, Lot 393 South Western Highway, Gwindinup*';
(f) implementing hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the site;
(g) undertaking weed control activities bi-annually;
(h) achieving the following completion criteria after the five-year monitoring period for the 12.8 hectare area *revegetated* and *rehabilitated* (green on attached Plan 7171/2(b)) under this Permit (excluding the 18.6 hectare *pasture rehabilitation areas*);

Criterion	Aspect	Completion criteria	Monitoring
A	Species richness	Minimum 15 locally occurring native flora species present in each rehabilitation area with 10 species in each 20 meter by 20 meter quadrat.	Annual monitoring of each extraction block in spring until completion criteria is met.
B	Species density	On average, 2,000 stems per hectare present in each *rehabilitation* area including approximately 750 upper and 1,250 other strata plants	Annual monitoring of each extraction block in spring until completion criteria is met.
C	Declared weeds	Declared weeds (declared pest species) are absent from the *rehabilitation* area.	Annual monitoring of each rehabilitation area in spring until completion criteria is met.
D	Bare ground	No bare patches (lacking vegetation) larger than 20 meters by 20 meters.	Annual monitoring of each rehabilitation area in spring until completion criteria is met.
E	Vegetation Condition	*Rehabilitation* area is in *good condition*	Annual monitoring of each rehabilitation area in spring until completion criteria is met.

(i) undertake remedial actions for areas *revegetated* and *rehabilitated* where monitoring indicates that revegetation has not met the completion criteria, outlined in 6(h), including;
  (i) *revegetate* the area by deliberately *planting* native vegetation and/or *direct seeding* native vegetation that will result in the minimum target in 6(h) and ensuring only *local provenance* propagating material are used;
  (ii) undertake further weed control activities; and

(j) annual monitoring of the revegetated and rehabilitated site, by an *environmental specialist* is to be undertaken until the completion criteria outlined in 6 (h) are met.

7. 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 or decimal degrees;
   (ii) the date that the clearing commenced;
   (iii) the date the extraction operations ceased;
   (iv) the size of the area cleared (in hectares);
   (v) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 3 of this Permit; and
   (vi) actions taken to minimise the risk of the introduction and spread of dieback and weeds in accordance with condition 4 of this Permit.

(b) In relation to fauna management pursuant to condition 5 of this Permit:
   (i) a photo of each artificial black cockatoo nest hollow installed;
   (ii) the dates each artificial black cockatoo nest hollow installed was monitored;
   (iii) a description of the monitoring methodology employed for each artificial black cockatoo nest hollow installed;
   (iv) a description of the monitoring observations for each artificial black cockatoo nest hollow installed;
   (v) the date(s) each artificial black cockatoo nest hollow installed was maintained; and
   (vi) a description of the maintenance activities undertaken for each artificial black cockatoo nest hollow installed.

(c) In relation to the *revegetation and rehabilitation* of areas pursuant to condition 5 of this Permit:
   (i) the location of any areas *revegetated* and *rehabilitated*, 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) a description of the *revegetation* and *rehabilitation* activities undertaken;
   (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
   (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
   (v) a copy of the *environmental specialist's* report.

8. Reporting

(a) The Permit Holder must provide to the *CEO* on or before 22 November of each year, a written report:
   (i) of records required under condition 7 of this Permit; and
   (ii) concerning 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 22 November of each year.

Definitions

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

black cockatoo(s) means Carnaby's cockatoo (Calyptorhynchus latirostris), Baudin's cockatoo (Calyptorhynchus baudinii) and forest red-tailed black cockatoo (Calyptorhynchus banksii naso);

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

dieback means the effect of *Phytophthora* species on native vegetation;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the *CEO* as a suitable environmental specialist;

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

good condition means vegetation structure significantly altered with obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate as defined within *Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia (1994).*

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

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;

optimal time means the period from April to July for undertaking *planting*

pasture rehabilitation area means area described as the area of 18.6 hectares that will be rehabilitated to pasture as described within the document '*Rehabilitation and Decommissioning Programme, Lot 393 South Western Highway, Gwindinup*'

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

weed/s means any plant –

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

Mathew Gannaway
SENIOR MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

20 March 2020

Schedule 1

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






birdlife AUSTRALIA

WATER CORPORATION

WESTERN AUSTRALIAN museum

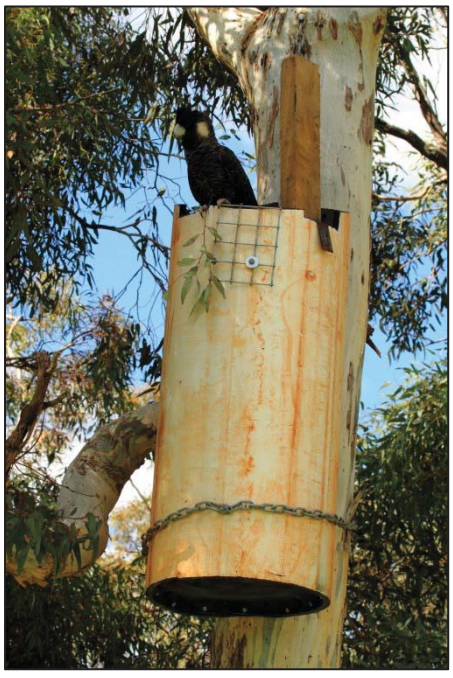
How to design and place artificial hollows for Carnaby's cockatoo

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






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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Plan 7171/2(a)

Legend

CPS layers

CPS areas approved to clear

base layers

Road Centrelines

Cadastre - LGATE 218

Local Government Authority (LGA) Boundaries (LGATE-233)

0 0.1 0.2 km

Mathew Gannaway
2020.03.20
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Officer delegated under section 20 of the Environmental Protection Act 1986

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GOVERNMENT OF WESTERN AUSTRALIA

Plan 7171/2(b)

Legend

base layers

- Road Centrelines
- Cadastre - LGATE 218
- Area subject to conditions

Local Government Authority (LGA) Boundaries (LGATE-233)

0 0.1 0.2 km

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GOVERNMENT OF WESTERN AUSTRALIA

Plan 7171/2(c)

Legend

base layers

- Road Centrelines
- Areas subject to conditions
- Cadastre - LGATE 218

Local Government Authority (LGA) Boundaries (LGATE-233)

0 0.1 0.2 km

Mathew Gannaway
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GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7171/2
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Mr Mario Michele Giacci
Application received date: 19 November 2018

1.3. Property details

Property: Lot 393 on Deposited Plan 159607
Local Government Authority: Shire of Capel
Localities: Gwindinup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
31.43		Mechanical Removal	Extractive industry

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 March 2020
Reasons for Decision:

The application to amend was received on 19 November 2018 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the findings from the previous assessment CPS 7171/1 are still relevant.

This amendment has been made to alter the clearing boundary and amend a permit condition from Clearing Permit 7171/1. The amendment to the clearing boundary results in a reduction of the clearing size from 31.5 hectares to 31.43 hectares. The amendment to the Clearing Permit Condition 5 is to align with the conditions on the Extractive Industry Licence (EIL), Development Approval (DA) and the rehabilitation/revegetation commitments within the 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup'.

The applicant has avoided and minimised impacts through reducing the proposed clearing area from 31.5 hectares to 31.43 hectares, agreement to the rehabilitation of a 150 metre strip of the northern boundary and a 300 metre strip of the southern boundary to native vegetation suitable for wildlife habitat and to act as a corridor, staged clearing in accordance with DA, EIL and commitments within the 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup'. The EIL and DA were granted by the Shire of Capel on 25 September 2019.

To mitigate impacts to black cockatoos, the permit has been conditioned with requirements for the Permit Holder to install and monitor artificial hollows, not clear any vegetation within the breeding season for black cockatoos (between 1 July and 28 February each year) and rehabilitate 12.8 hectares of native vegetation to provide fauna habitat and foraging for black cockatoo species

Given the above, the Delegated Officer decided to grant a clearing permit subject to staged clearing, weed and dieback management, Black Cockatoo Management and revegetation and rehabilitation conditions.

2. Site Information

Clearing Description

The application is for the proposed clearing of up to 31.43 hectares of native vegetation within Lot 393 on Deposited Plan 159607, Gwindinup, for the purpose of extractive industry (Figure 1).

Vegetation Description

The vegetation within the application area is mapped within the following vegetation complexes:

- Whicher, which is described as open forest of *Eucalyptus marginata* subsp. *marginata-Corymbia calophylla* on escarpment with some *Corymbia haematoxylon, Banksia attenuata* and *Xylomelum occidentale* in the humid zone (Mattiske and Havel, 1998); and
- Cartis, which is described as low open forest to open forest of *Eucalyptus marginata* subsp. *marginata-Corymbia calophylla-Corymbia haematoxylon* with some *Banksia*

attenuata and *Xylomelum occidentale* on slopes of escarpment in the humid zone (Mattiske and Havel, 1998).

A site inspection of the application area by the former Department of Environment Regulation (DER, 2016) described the vegetation within the application area as predominantly non-native Eucalypt species with scattered *Corymbia calophylla*, *Eucalyptus marginata*, *Eucalyptus gomphocephala* and *Xylomelum occidentale* and *Agonis flexuosa* over weeds with a mid-storey of scattered *Xanthorrhoea* sp. and *Nuytsia floribunda* (DER, 2016).

Vegetation Condition

The condition of the vegetation was determined through a site inspection of the application area by the former DER (DER, 2016). The vegetation within the application area is considered to be in Completely Degraded to Degraded condition, described as:

- Completely Degraded; No longer intact, completely/almost completely without native species (Keighery, 1994), to;
- Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Soil Description

The application area intersects two soil map units, as described below:

- Cartis footslopes phase described as very low relief (1-5%) foot slopes with rapidly drained deep bleached grey sands and occasionally deep yellow brown sands. Minor occurrence of gravels (Purdie et al., 2004); and
- Whicher gentle slopes phase, described as slopes 3-10% (Purdie et al., 2004).

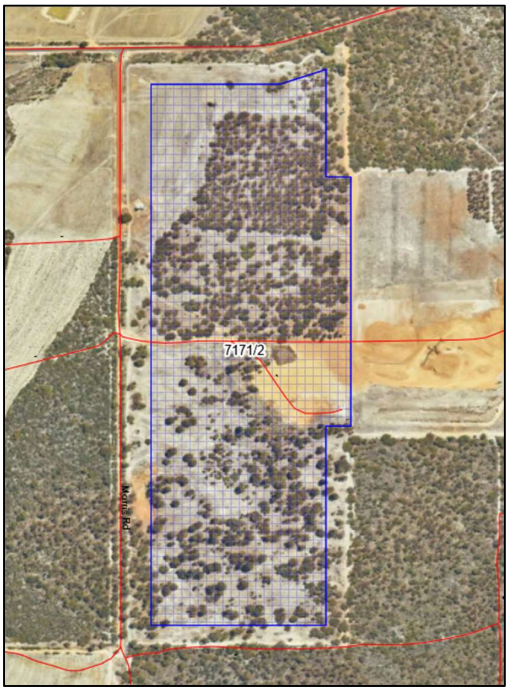

Figure 1: Proposed clearing area CPS 7171/2 cross hatched in blue

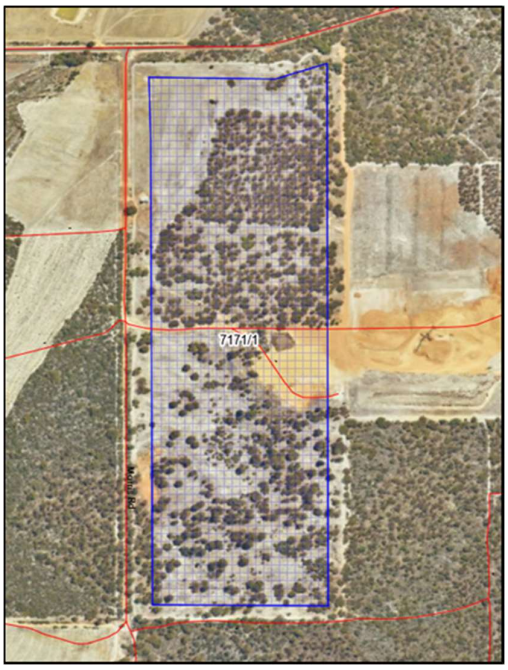

Figure 2: Area approved to clear under CPS 7171/1

Figure 3: Looking south west consisting predominantly Woody Pear (DER, 2016).

Figure 4: Vegetation within the application area consists of non-native and native eucalypts (DER, 2016).

Figure 5: A cluster of non-native eucalypts (DER, 2016).

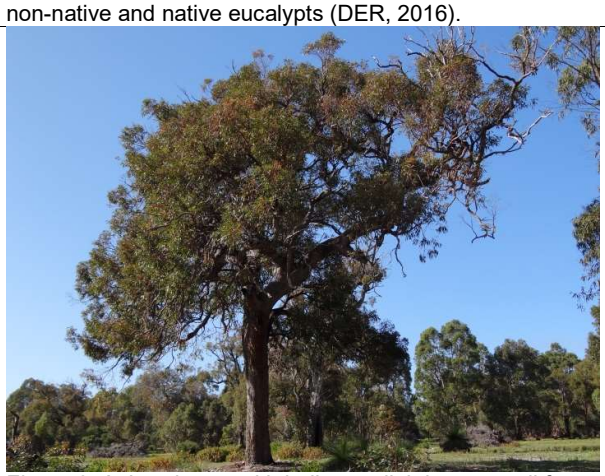

Figure 6: A Jarrah tree with hollows, slightly too small for Black cockatoos (DER, 2016).

3. Minimisation and mitigation measures

In the application to amend CPS 7171/1, the applicant has noted that the footprint area proposed under the amendment is similar size as approved in Clearing Permit 7171/1, however the boundary has reduced.

Other minimisation and mitigation measures detailed within the Development Approval (DA) (Shire of Capel, 2019) and the Decommissioning and Rehabilitation Programme Lot 393 South Western Highway, Gwindinup (MBS, 2019) include the following:

- Staged clearing and subsequently extraction;
- Rehabilitation will be done as soon as practicable after the completion of the extraction of the stage to minimise spread of weeds; and
- The rehabilitation of two strips of vegetation to facilitate fauna movement across the landscape.

Assessment of application against clearing principles

The clearing permit amendment was assessed against the 10 clearing principles outlined in Schedule 6 of the *Environmental Protection Act 1986*.

It is noted that 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' ecological community has been listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999*, effective as of 4 July 2019. As noted within the description in Section 2 above, the vegetation within the application area contains Tuart trees. Considering the approved conservation advice for this community, the vegetation within the application area does not meet the key diagnostic criteria for patch classification of the ecological community due to absence of native species within the understory and the soil types mapped. In addition to this, if the vegetation did meet the key diagnostic criteria for this ecological community, it is noted that the patch size potential occurrences within the application area and including neighbouring vegetation would not meet the patch size or condition criteria (Department of the Environment and Energy, 2019). Noting this, the assessment against Principle (a) remains as determined within CPS 7171/1.

The assessment of the remaining principles has not changed since the assessment of application 7171/1, and can be found in the Decision Report for application CPS 7171/1.

An amendment has been made to Condition 5 on Clearing Permit CPS 7171/1 to align the rehabilitation conditions with those approved under the Shire of Capel Extractive Industry Licence (EIL) (Shire of Capel, 2019) and 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup' (MBS, 2019).

Planning instruments and other relevant matters.

The application to amend CPS 7171/1 was advertised by DWER on 13 December 2018 for a period of 21 days. One public submission was received.

The public submission (Submission, 2019) raised the following concerns:

- The maps provided with the application indicate the application area may be parkland cleared but there is no photographic evidence.
- Vegetation within the application area contains large trees which provide foraging and nesting habitat for local fauna.

The above concerns had been addressed through the assessment of Clearing Principles within CPS 7171/1. The condition of the vegetation was determined by a site inspection carried out by the former Department of Environmental Regulation in 2016, describing the vegetation to be in completely degraded to degraded condition (Keighery, 1994; DER 2016). Figures 3 to 7show representative photos of the application area (DER 2016). The 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup' (MBS, 2019) also contains representative photos.

A fauna habitat assessment was completed during the assessment of CPS 7171/1. The assessment noted 156 trees within the application area that had a diameter at breast height (DBH) of >50 centimeters. Of the 156 trees identified, only nine contained hollows based on the size of the entrance to an apparent hollow. Eight of the apparent hollows showed no evidence of use by black cockatoos. One tree contained a hollow with significant rub marks around the entrance attributed to use by black cockatoos.

The assessment noted the presence of *Eucalyptus marginata*, *Corymbia calophylla* and *Xanthorrhoea preissii* within the application area but noted that while *Corymbia calophylla* is a preferred foraging source for the three species of black cockatoos, there were limited amounts of the tree species within the application area. In addition to this, the survey noted very little evidence of foraging by black cockatoos within the application area. No existing roosting trees were positively identified during the survey.

To mitigate impacts to fauna habitat, a permit to clear has been conditioned with requirements for the Permit holder to install and monitor artificial hollows, not clear any vegetation within the breeding season for black cockatoos (between 1 July and 28 February each year) and rehabilitate 12.8 hectares of native vegetation to provide fauna habitat and foraging for black cockatoo species.

A direct interest submission was received from the Capel LCDC (Capel LCDC, 2019) opposing the proposed amendment and raising the following concerns:

- The proposed clearing includes a buffer zone consisting of mature trees which should be retained for fauna habitat and erosion mitigation.
- Retention of the tree buffer would improve linkages with nearby remnant vegetation and to the nearby Reserve 2307.
- If the buffer is removed, rehabilitation measures are not likely to be successful, previous plantings have failed and based on these efforts, there is concern over the applicant's ability to successfully implement revegetation.

- The issue of erosion was previously raised in submission against CPS 7171/1. There is a gradient from the lot to Lowrie road and the proposed works may cause further erosion and runoff to nearby properties and roads.
- Priority weeds have been observed within the application area.
- Opposing any easement in the rehabilitation requirements of a Clearing Permit, previous plantings at this location appear to be unsuccessful.

The environmental issues raised in this submission are addressed under the assessment against the clearing principles within CPS 7171/1 and are further discussed below in relation to the amendment.

A buffer zone has been conditioned within the Development Approval (DA)/Extractive Industry Licence (EIL) by the Shire of Capel to provide a setback of 40 meters on the northern, western and southern boundaries of Lot 393. The area approved to clear under this Permit excludes the buffer area.

The ability of the trees within the buffer on the eastern extent (as noted by dot-points one, two and four above), to provide linkage to nearby remnant vegetation and fauna habitat was considered as part of the amendment. It is noted that a wide linkage exists through the neighbouring Lot 287 to provide ecological linkage between Crown Reserve 2307, Crown Reserve 18237 and Lot 107.

Erosion issues (as noted in dot points one and four above), for the proposed clearing were addressed in the assessment of CPS 7171/1 within Principle (g). The assessment noted that the soil types within the application area present a moderate risk of wind erosion. However, the risk of wind erosion has been mitigated through staged clearing and rehabilitation as conditioned in the EIL (Shire of Capel, 2019) and the Clearing Permit conditions including rehabilitation measures. The final slope of Lot 393 is to be 1:10, with ripping along contours and contour banks constructed at 100 meter intervals, these conditions are committed to by the applicant within the 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup' (MBS, 2019) as approved within the EIL (Shire of Capel, 2019). In addition to this, the retention of a 40 meter setback zone on three sides of the proposed clearing provides further erosion mitigation.

In response to dot point five above, a permit to clear has been conditioned with weed and dieback management measures that require the Permit Holder to take actions to minimise the risk of the introduction and spread of weeds and dieback. In addition to this, the rehabilitation conditions within the Permit contain completion criteria that specify declared weeds are to be absent from the rehabilitation area. The Permit also contains monitoring conditions for weeds to achieve completion criteria.

In response to comments made about previous rehabilitation success within Lot 393, (dot points three and six above) the Permit to clear requires the rehabilitation to good (Keighery, 1994) condition of 12.8 hectares total within two areas as marked on maps attached to the Permit. The Permit is also conditioned with remedial actions to be carried out by the Permit holder, should the rehabilitation requirements not be met.

The application area is zoned as Rural under the Shire of Capel Town Planning Scheme No. 7 and under the Greater Bunbury Region Scheme. Use of the property for an extractive industry requires planning consent from the Shire of Capel and an EIL.

A DA and EIL has been granted by the Shire of Capel on 25 September 2019 with the EIL expiring on 25 September 2024. Conditions of the DA/EIL include;

- Setbacks of 40 meters from the northern, western and southern boundaries to provide screening of operations. No operations to occur within setback areas.
- Precautions against windblown material in accordance with an approved Dust Management Plan.
- Dieback management conditions in accordance with DEC (DWER) guidelines and the 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup' (MBS, 2019).
- Prevention of dieback spread in accordance with DEC (DWER) guidelines, Extractive Industry Licence and 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup' (MBS, 2019).
- No discharge of stormwater other than pre-development runoff within defined natural watercourses will be permitted.
- Stormwater disposal to comply with Stormwater Management Plan and 'Water Quality Protection Note no.15'.
- Rehabilitation shall be in accordance with the approved 'Rehabilitation and Decommissioning Programme Lot 393 South Western Highway, Gwindinup' (MBS, 2019).
- Rehabilitation is to be undertaken progressively on an annual basis.
- Lodgement of bonds for restoration and reinstatement.
- Minimum batters of 1:10 shall be applied to all rehabilitated slopes.

It is noted that while dot point three above references '*dieback management condition in accordance with DEC (DWER) guidelines*'. There is no current DWER guideline for dieback management but where dieback risk is considered to occur, DWER conditions permits to clear with a dieback management condition.

The application area is located within the Busselton-Capel Groundwater Area and the Capel River System Surface Water Area proclaimed under the *Rights in Water Irrigation Act 1914* (RIWI Act). The former Department of Water (DoW) advised that 'As the subject lot is located within the Busselton-Capel Groundwater Area, a licence would be required to construct bores or take groundwater' (DoW, 2016). The applicant has advised they do not intend on constructing bores or taking groundwater.

The application area intersects an Aboriginal heritage place –Gynudup Brook Ephemeral Creek (mythological, water source) and is within approximately 200 meters of a registered Aboriginal Heritage site (Place Id 18900, registered artefacts/scatter site). It is the applicant's responsibility to comply with the requirements of the *Aboriginal Heritage Act 1972* and to ensure that no Aboriginal sites of significance are disturbed as a result of any activities.

4. References

Capel LCDC (2019) Response to application to amend CPS 7171/1. DWER Ref A1753950

DER (2016) Site Inspection Report for Clearing Permit Application CPS 7171/1, Lot 393 on Plan 159607, Gwindinup. Site inspection undertaken 8 September 2016. Department of Environment Regulation, Western Australia (DER Ref. A1170986)

Department of the Environment and Energy (2019). *Approved Conservation Advice (incorporating listing advice) for the Tuart* (Eucalyptus gomphocephala) *woodlands and forests of the Swan Coastal Plain ecological community*. Canberra: Department of the Environment and Energy. Available from: http://www.environment.gov.au/biodiversity/threatened/communities/pubs/153-conservation-advice.pdf.

DoW (2016) Advice from the Department of Water to the Department of Environment Regulation in relation to clearing permit application CPS 7171/1. DER Ref A1146573.70986).

DWER (2019) Clearing Permit CPS 7171/1. DWER reference: A1605987

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Martinick Bosch Sell Pty Ltd (2019) Rehabilitation and Decommissioning Programme, Lot 393 South Western Highway, Gwindinup. DWER reference: A1868759

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.

Purdie, B R, Tille, P J, and Schoknecht, N R. (2004), Soil-landscape mapping in south-Western Australia : an overview of methodology and outputs. Department of Agriculture and Food, Western Australia, Perth. Report 280.

Shire of Capel (2019) Development Approval and Extractive Industry Licence– Lot 393 Lowrie Road, Gwindinup. October 2019. DWER reference A1859094

Submission (2019) Submission for Application to Amend CPS 7171/1. DWER reference: A1752547

GIS Databases:

-Aboriginal Sites of Significance
-DAFWA Heritage
-DBCA Estate
-DEC Covenant
-Groundwater salinity
-Hydrography, linear
-National Trust WA Covenant
-Remnant vegetation
-SAC bio datasets (accessed August 2019)
-Soils, Statewide
-Topographic contours
-Wetlands