



Section 70(2)
Environmental Protection Act 1986.

VEGETATION CONSERVATION NOTICE

CPS 7696/1

Persons to whom this vegetation conservation notice is given (The Occupier):
(being the occupier of the land described below)

Shire of Northam
PO Box 613
NORTHAM WA 6401

Land to which this vegetation conservation notice relates (“the land”):

Chinganning Road Reserve – PIN 11721413 in the localities of COPLEY and WOOTATTING,
Shire of Northam.

Reasons for which this vegetation conservation notice is served:

This vegetation conservation notice is given because I suspect on the following grounds that unlawful clearing has taken place:

- (a) Examination of aerial and satellite imagery has shown the land contained native vegetation in January 2017.
- (b) A site inspection of the land by Department of Water and Environmental Regulation Inspectors on 23 May 2017 confirmed that clearing had been carried out.
- (c) I suspect on reasonable grounds that the clearing was not authorised by a clearing permit or by an exemption under either the *Environmental Protection Act 1986* or the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.
- (d) I suspect on reasonable grounds that unlawful clearing of native vegetation, constituting a contravention of section 51C of the *Environmental Protection Act 1986*, has taken place on the land.

Requirements of this Notice:

The person(s) to whom this vegetation conservation notice is given, and each subsequent owner and or occupier of the land who is bound by this vegetation conservation notice, are required to undertake the following specified measures for a period of twenty (20) years from the date this notice:

1. No unlawful clearing

Ensure that no further unlawful clearing takes place on the land.

2. Installation and Maintenance of Artificial Nesting Hollows

To install artificial nesting hollows by:

- (a) Constructing or obtaining 10 artificial nesting hollows to the design specifications detailed in Annexure 1 of this Notice, How to design and place artificial hollows for Carnaby's black cockatoo (DPaW, 2015);
- (b) Installing 10 artificial nesting hollows in the *specified area* ensuring that mountings and placement are in accordance with Annexure 1 of this Notice;
- (c) Mounting artificial nesting hollows that cannot be viewed from a gazetted road so that the base is a minimum of four metres from the ground;
- (d) Mounting artificial nesting hollows that can be viewed from a gazetted road so that the base is a minimum of seven metres from the ground; and
- (e) Completing the installation of all artificial nesting hollows by the 30 June 2020.
- (f) Prior to 30 June each year after 2020 carry out a maintenance program of the installed hollows to ensure each hollow is still habitable. This maintenance is to be continued for a period of twenty (20) years from the date this notice is given. This maintenance is to be carried out in accordance with Annexure 2 of this Notice, How to monitor and maintain artificial hollows for Carnaby's cockatoo (DPaW, 2015).

3. Record Keeping

The following records shall be maintained for activities done pursuant to this vegetation conservation notice:

- (a) in relation to the installation of artificial nesting hollows pursuant to measure 2(b):
 - i. the date/s that the artificial nesting hollows were installed;
 - ii. the *coordinates* of the location/s that the artificial nesting hollows have been installed;
 - iii. the height that each artificial nesting hollow has been mounted measuring from the ground to the base of the artificial nesting hollow;

- iv. three digital images of each installed artificial nesting hollow depicting in the case of a tree mount the entire tree, in the case of a pole mount the entire pole and an internal and external close-up of the constructed artificial nesting hollow.
- v. the date/s annual maintenance was carried out on each artificial nesting hollow.
- vi. specify what maintenance was carried out on each artificial hollow.

4. Reporting

Records required under measure 4 shall be submitted to the *CEO* by 30 June of each reporting year on activities done under this vegetation conservation notice between 1 January and 31 December of the preceding year. The first report being due by 30 June 2020.

DEFINITIONS

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

CEO means the Chief Executive Officer of the Department of the Public Service of the State through which the *Environmental Protection Act 1986* is administered.

coordinate means a Map Grid of Australia (Geocentric Datum of Australia 1994) coordinate for zone 50 expressed in either eastings and northings or decimal degrees

specified area means Chinganning Road Reserve – PIN 11721413, in the localities of COPLEY and WOOTATTING in the Shire of Northam excluding the carriageway and maintenance zone



Stuart Cowie
Executive Director
Compliance and Enforcement

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

23 August 2019

Important Information:

A PERSON WHO IS BOUND BY THIS VEGETATION CONSERVATION NOTICE AND WHO DOES NOT COMPLY WITH THIS VEGETATION CONSERVATION NOTICE COMMITS AN OFFENCE UNDER THE *ENVIRONMENTAL PROTECTION ACT 1986*.

Under section 103 of the *Environmental Protection Act 1986*:

- a person who is aggrieved by a requirement contained in this vegetation conservation notice may within 21 days of being given this notice lodge with the Minister for Environment an appeal in writing setting out the grounds of that appeal; and
- any other person who disagrees with a requirement contained in this vegetation conservation notice may within 21 days of the making of that requirement lodge with the Minister for Environment an appeal in writing setting out the grounds of that appeal.

PENDING THE DETERMINATION OF AN APPEAL REFERRED TO ABOVE, THE RELEVANT REQUIREMENTS CONTAINED IN THIS VEGETATION CONSERVATION NOTICE CONTINUE TO HAVE EFFECT.



Legend

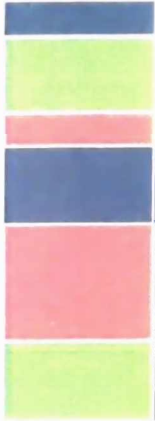
- Roads
- Indicative Plan
- WA_Regional_2017

Produced by Daniel Hunter
Department of Water and Environmental Regulation
9 January 2019

Projection MGA zone 50
Datum GDA 94

The Department of Water and Environmental Regulation does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequences which may arise from relying on any information depicted.





Department of
Parks and Wildlife



ANNEXURE 1

Fauna notes

Artificial hollows for Carnaby's cockatoo



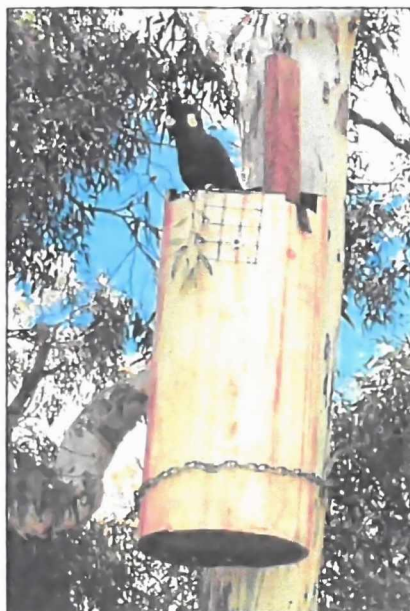
How to design and place artificial hollows for Carnaby's cockatoo

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

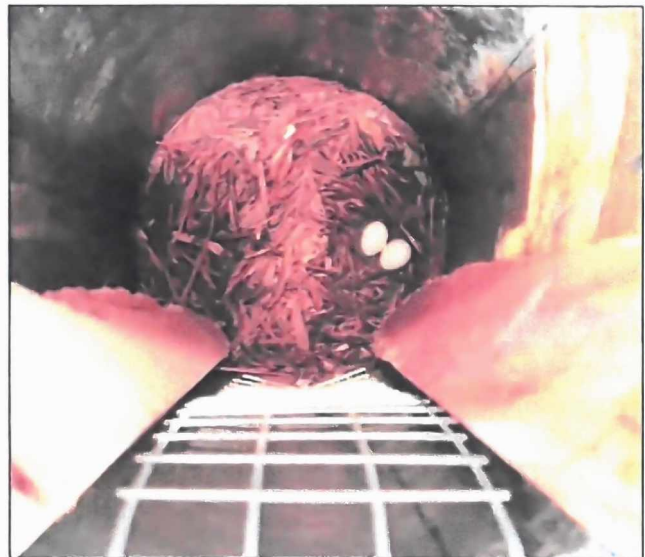
The base of the artificial hollow must be;

- 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. Zincolume ®), 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

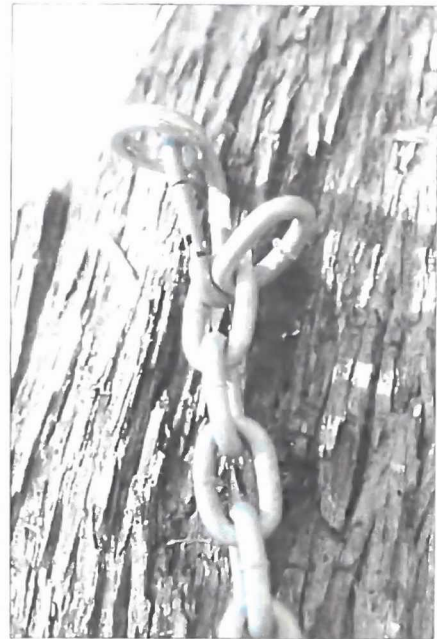
Once artificial hollows have been placed they require monitoring and maintenance to ensure they continue to be useful for nesting by Carnaby's cockatoo. It is important to monitor artificial hollows to determine use by Carnaby's cockatoo, other native species as well as pest species. By undertaking monitoring 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>

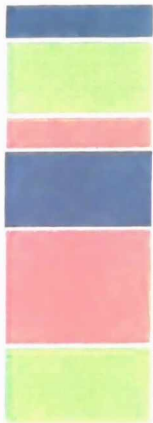
Further information

Last updated 28/04/2015

Contact rauna@dpaw.wa.gov.au or your local office of the Department of Parks and Wildlife

See the department's website for the latest information: www.dpaw.wa.gov.au

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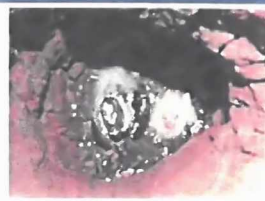


Department of
Parks and Wildlife



ANNEXURE 2 Fauna notes

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 (wildlifelicencing@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)	<ul style="list-style-type: none"> • 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)	<p>To observe at least two of the following:</p> <ul style="list-style-type: none"> • Breeding behaviour of adults around hollow or evidence of chewing • Female flushed from hollow • Noises from nestlings in hollow <p>Or to observe:</p> <ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Looking inside nest to observe eggs or nestlings.
To determine use by any species	As often as possible.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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

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Further Information

Last updated 28/04/2015

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