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Artificial hollows for Carnaby's cockatoo



When to use artificial hollows



Department of
Environment and Conservation



Information sheet

When to use artificial hollows for Carnaby's cockatoo

Artificial hollows can be used to help conserve the threatened Carnaby's cockatoo. They can enable the cockatoos to breed in areas where natural hollows are limited. For example, artificial hollows may be useful at sites where existing hollows are degrading and not being replaced quickly enough due to lack of tree regeneration. However, the cockatoos don't always use artificial hollows when provided. There are ways to select sites for artificial hollows that will increase the chances of being used by the cockatoos.

This information sheet provides advice on selecting sites and suggested conservation actions for sites where artificial hollows are not suitable. The alternative conservation actions suggested are important to the conservation of the cockatoos and can also be used to complement the placement of artificial hollows.

It is important to remember that the retention of both old and dead trees that have suitable hollows for Carnaby's cockatoo is critical to breeding and hence the long-term survival of the species. The installation of artificial hollows should not be used to justify the removal of natural hollow-bearing trees.



Carnaby's cockatoo chicks. Photo by Christine Groom

Where do Carnaby's cockatoos nest?

Carnaby's cockatoos nest in the hollows of mature trees in uncleared or remnant areas of eucalypt woodland or forest, particularly salmon gums and wandoo in the Wheatbelt, marri in forested areas and in tuart along the Swan Coastal Plain (Figure 1). Trees take more than 200 years to develop hollows that are a suitable size. The cockatoos use hollows in both living and dead trees.

Figure 1 Breeding range of Carnaby's cockatoo (as at November 2009).



Is my site suitable for artificial hollows?

It is recommended that artificial hollows be used in known nesting areas where there has been a decrease in the availability of natural nesting hollows. Trials have shown that Carnaby's cockatoos will nest in artificial hollows if installed in suitable areas and are of a satisfactory design. However, putting up artificial hollows may not be the best way to help Carnaby's cockatoos in your area. The criteria below summarise what you need to consider deciding if your site is suitable for artificial hollows. Alternative conservation actions are suggested for each criterion that is not met. All of the following criteria must be met for a site to be suitable for placement of artificial hollows:

Criterion 1

The site is a eucalypt woodland or forest within the known breeding range of the species (see Figure 1).

If not, see Alternative conservation actions 1.

Criterion 2

Breeding by Carnaby's cockatoo is known or suspected at the site. There must also be evidence that a lack of available tree hollows is preventing breeding that would otherwise occur in the area.

If not, see Alternative conservation actions 2.

Note: If the lack of available hollows is due to nest competitors such as galahs, western long-billed corellas or feral bees, any attempt to install artificial hollows must be accompanied by efforts to deter or control these competitors. Alternatively, successful control of competitors may mean that artificial hollows are not needed.

Criterion 3

The artificial hollows can be located in close proximity to adequate feeding areas—within a 12 kilometre radius.

If not, see Alternative conservation actions 3.

Note: Feeding areas commonly contain proteaceous species such as banksias (including dryandras) and hakeas. A list of food plants can be obtained by querying the Plants for Carnaby's Search Tool available at www.dec.wa.gov.au/plantsforcarnabys.

Criterion 4

The hollows are placed in secure locations and the owner/manager of these areas is supportive and willing to provide the necessary long-term security and annual maintenance for the entire time that the artificial hollow will be in place.

If not, see Alternative conservation actions 4.

Note: For advice on monitoring and maintenance requirements, please refer to the separate information sheet *How to monitor and maintain artificial hollows for Carnaby's cockatoo*.

Criterion 5

A suitable artificial hollow design is used (see Figure 2).

If not, see Alternative conservation actions 5.

Note: For greatest chance of success, please refer to the separate information sheet *How to design and place artificial hollows for Carnaby's cockatoo*.

Figure 2 Examples of successful artificial hollows.



Note signs of fresh chewing on hollow entrance (right) and chewing posts (left). Photos by Christine Groom

Alternative conservation actions

Alternative conservation actions 1

If the site is not within the known breeding range of the cockatoo, it is unlikely that they can be encouraged to use artificial nest hollows in these areas. However, Carnaby's cockatoo is a highly mobile species that also requires habitat for feeding and roosting. This means that it is important to protect and manage habitat visited by the cockatoos, by fencing, and to carry out other management, such as rabbit control, in order to retain existing habitat and to encourage regeneration of native vegetation.

It is also important to revegetate areas within the breeding and non-breeding areas with preferred food species and to create linkages of vegetation to assist their movement through the landscape.

Alternative conservation actions 2

If sufficient natural hollows are available in an area, there is no need to install artificial hollows. This overcomes the need for ongoing maintenance of unnecessary artificial hollows.

If breeding already occurs at the site and there are plenty of available hollows, efforts can be redirected towards caring for existing or future nesting hollows. This may involve repairing old or damaged nesting hollows by covering cracks, removing debris blocking access to hollows or replacing rotted wood in the hollow so that the depth of the nest floor is manageable for the birds (contact Birds Australia for more information and assistance). Future hollows can be protected by preventing compaction of ground around trees, fencing and/or rabbit control to encourage regeneration to produce future nesting trees, fire management and the strategic pruning of limbs to prevent limbs breaking and tearing open hollows. Efforts can also be aimed at enhancing the success of existing breeding by revegetating with preferred food and nesting species as well as creating linkages of suitable vegetation between nesting and feeding areas.

If breeding is not occurring at the site despite hollows being available, there may be a range of factors making the site unsuitable for breeding. These factors must be identified and addressed before breeding can resume in the area (if at all possible). Lack of sufficient food could be the cause and this can be addressed by revegetating with preferred food species and increasing connectivity in the landscape.

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Alternative conservation actions 3

If the site is not in close proximity to sufficient feeding areas, the cockatoos will not be able to successfully raise young. Carnaby's cockatoos require sufficient food in close proximity to nesting areas in order to be able to forage during the day and return to feed chicks. Existing feeding habitat close (within 12 kilometres) to breeding areas can be protected by fencing and/or undertaking rabbit control to encourage regeneration of native vegetation. The amount of feeding habitat in an area can be increased by planting or revegetating with preferred food species.

Alternative conservation actions 4

Artificial hollows are subject to nest robbing and vandalism. It is highly recommended that artificial hollows are not put in exposed or easily accessible areas such as road verges. If the site is considered at high risk of nest robbing or vandalism, alternative actions to assist the conservation of the species are recommended, including revegetation, fencing, repairing old or damaged natural nesting hollows, and planting vegetation linkages to connect nesting and feeding areas.

Alternative conservation actions 5

If an improved or alternative design is proposed, it is recommended that Birds Australia, WA Museum or Department of Environment and Conservation are contacted to discuss plans.

Hint

To compile a list of species suitable for revegetation at your site, visit the Plants for Carnaby's Search Tool available at: www.dec.wa.gov.au/plantsforcarnabys

In summary

If your site doesn't match all the criteria required for the installation of artificial hollows to be effective, you may wish to consider alternative conservation actions including:

- protecting habitat by fencing and/or rabbit control to encourage regeneration of native vegetation
- controlling competitive species such as galahs and feral bees that compete for breeding hollows
- repairing old and damaged natural nesting hollows
- revegetating with preferred food species and nesting trees
- creating linkages of vegetation between nesting and feeding areas.