

**RESPONSE TO PART 2 OF LEGISLATIVE COUNCIL  
QUESTION ON NOTICE 5347**

*“(2) For each recovery action listed in the recovery plan, please provide full details*

*(a) to what extent has it been implemented;*

*(b) what was its cost; and*

*(c) how much has the action insofar as it has been implemented contributed towards the criteria for success specified at page 7? Please provide full details including evidence relied on.”*

The following response relates to the recovery actions listed in “Carnaby’s Black-Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan” by Belinda Cale for the Carnaby’s Black-Cockatoo Recovery Team, completed in 2003. In relation to part (b) of the question, it is not possible to accurately identify expenditure on each individual recovery action as most actions are undertaken as part of broader activities and do not have costs individually allocated in Department of Environment and Conservation (DEC) financial systems. Recovery plan implementation includes actions budgeted across general threatened species and wildlife management, reserve management, wildlife survey and compliance.

**ACTIONS 5.1: HABITAT MANAGEMENT WITHIN PRIORITY AREAS**

**5.1.1: IDENTIFY PRIORITY AREAS**

**(i) Determine known breeding sites**

Important areas have been identified in work carried out by DEC, the WA Museum and organisations such as BirdLife Australia and World Wildlife Fund. Twelve areas regularly used by more than 20 breeding pairs have been designated as Important Bird Areas (IBAs) by BirdLife Australia.

As part of a project funded through the State Natural Resource Management (NRM) program involving DEC and BirdLife Australia, additional important nesting and foraging habitat in the agricultural region was identified during 2009-10. DEC funded a survey by the WA Museum of the Leeuwin Ridge to the Blackwood River in 2009 to locate breeding and roosting areas for all three black cockatoo species. The State NRM program provided \$75,700 to the project to identify additional nesting and foraging habitat in the agricultural region during 2009-10.

**(ii) Assess the size and health of specific breeding populations**

DEC has been monitoring key nesting sites in the northern wheatbelt since 2003 and in the southern wheatbelt since 2009. During annual monitoring the nesting productivity of sites is measured along with measurements of relative health status of nestling cockatoos.

Other important breeding populations have been subject to ongoing monitoring of numbers of breeding attempts and success by the WA Museum and CSIRO. DEC estimates that approximately \$30,000 per year is spent on this action.

Data analysis has shown a relationship between the extent of clearing of native vegetation within six kilometres of key nesting sites and the nesting success and proportion of chicks whose weight is below the benchmark for Carnaby’s cockatoo chicks. This suggests that further attention is required to conserve foraging habitat associated with breeding sites.

**(iii) Assess the relative proportions of breeding and feeding habitat for specific breeding populations**

Assessment of the area or value of feeding habitat relative to breeding habitat has not been undertaken. Management of Carnaby's cockatoo breeding success is targeted at a small number of breeding sites where actions are directed at protecting and maintaining nest hollows, control of hollow competitors and monitoring.

**(iv) Select priority areas and formulate specific plans for each area**

See the answer in relation to recovery action 5.1.1(iii).

### **5.1.2: MANAGEMENT OF BREEDING HABITAT WITHIN PRIORITY AREAS**

**5.1.2 (a) Maintain nesting hollows**

**(i) Monitor and maintain nesting hollows, fire prevention**

DEC staff inspect and, where necessary, repair known nest hollows and provide advice to land managers on the management of cockatoo habitat. Where breeding habitat is on DEC-managed lands the department has an ongoing role in habitat management that includes seeking to protect nest hollows from bushfires.

Programs run by organisations including BirdLife Australia and some regional NRM groups also provide advice and support for management of nesting habitat.

In DEC prescribed burns, potential habitat trees with hollows are identified along the perimeters of proposed burn areas and raking is applied around trees identified for protection prior to undertaking the burn. If habitat trees with hollows do ignite, water rather than felling is identified as the preferred fire suppression option.

Cockatoo breeding has been demonstrated to have continued in trees that have had repair and protection of known nest hollows. Raking litter away from habitat trees with hollows has been found to reduce the chance of those trees burning.

**(ii) Minimise illegal poaching throughout breeding distribution**

Nestlings are still taken illegally for aviculture. Often trees are cut down or the hollows damaged when young and eggs are taken, making them unsuitable for future breeding. Between 1991 and 2008 there were 39 prosecutions brought to court against individuals for illegal dealings with Carnaby's cockatoos, resulting in 14 convictions.

Poaching of eggs and chicks is a recognised threat, however it is not possible to quantify the contribution of enforcement actions to any change in breeding success.

**(iii) Fence woodland remnants**

DEC, the WA Museum and organisations including BirdLife Australia and some regional NRM groups have continually provided advice and, where possible, assistance to landowners to protect and fence remnant vegetation in breeding areas. This is often carried out with a general intent to increase the area of protected vegetation and also as part of specific programs targeting Carnaby's cockatoo.

As part of a project funded through the State NRM program, critical nesting and foraging habitat in the wheatbelt was identified during 2009-10. High quality vegetation at those sites

that would benefit from improved protection was identified and negotiations were then held with landowners to obtain their agreement to fence those areas. Fencing began in 2011 and once completed landowners are engaged to develop management guidelines to help ensure the maintenance, and where necessary improvement, of the quality of the habitat. Fourteen remnants have been fenced under this project, totaling 570 hectares.

Within BirdLife Australia's program, voluntary management agreements with private landholders are protecting and/or better managing critical habitat through fencing and revegetation. Willing landowners are being directed to relevant agencies to establish conservation covenants or voluntary management agreements.

Regional NRM groups have also targeted some of their investment towards fencing to protect woodlands on private property, with DEC assistance with property assessments.

The State NRM program allocated \$91,457 for fencing in the wheatbelt.

#### **(iv) Control nest competitors**

Two breeding sites have been targeted for control of nest hollow competitors (introduced corellas and galahs) by volunteers and DEC. Some private landowners also control nest hollow competitors. In other sites control of feral bees has been carried out by community groups funded through NRM regional groups.

This action also benefits from DEC's program of localised control of introduced corellas and rainbow lorikeets.

There has been an increase in nesting success recorded at sites where nest hollow competitors have been reduced and breeding success has been monitored.

#### **5.1.2 (b) Increase hollow availability**

##### **(i) Design, construct and erect nest boxes and logs**

Over 315 artificial nest hollows have been installed under programs including the WA Museum Cockatoo Care Program, as well as by community groups and individual land managers. In 2010 as part of the State NRM program DEC conducted a study into the effectiveness of nest boxes, and based on the findings of this study DEC has prepared information sheets on the design, placement and maintenance of artificial nest boxes.

The estimated cost of installing an artificial nest box is \$300 per nest box.

The study carried out by DEC on the effectiveness of nest boxes and development of information sheets was part of a larger State NRM program project aimed at conservation of a number of threatened species. This part of the project cost \$30,000.

The DEC study on the effectiveness of nest boxes demonstrated that artificial nest hollows were used by Carnaby's cockatoo, especially in the northern agricultural areas and so they are considered to have a role in maintaining or increasing breeding success.

##### **(ii) Develop and publish planting guidelines in consultation with stakeholders**

DEC, the WA Museum and organisations including BirdLife Australia and some regional NRM groups have continually provided advice and assistance to landowners to manage and rehabilitate remnant vegetation in breeding areas. A number of publications have also been produced that provide guidance on revegetation methods.

As part of the State NRM program DEC developed the ‘Plants for Carnaby’s search tool’, an on-line resource which assists land managers to select plant species suitable for their area that can provide feeding, roosting and nesting resources for Carnaby’s cockatoo.

The preparation of the ‘Plants for Carnaby’s search tool’ was part of a larger State NRM program project aimed at conservation of a number of threatened species. This part of the project cost \$70,000.

Because much of the work on creating and revegetating habitat in the wheatbelt has been carried out by private landowners, community groups and other organisations, there is no consolidated record of where these activities have been carried out and how effective they have been in maintaining or increasing the area of breeding habitat, or the relative contribution to breeding success.

**(iii) Develop management guidelines for woodland regeneration**

See the answer in relation to recovery action 5.1.2 (b)(ii).

**5.1.3: MANAGEMENT OF FEEDING HABITAT WITHIN PRIORITY AREAS**

**(a) Retention of feeding habitat**

**(i) Manage existing heath/shrubland reserves**

Management of publicly-owned forest and conservation reserve lands by DEC maintains heath and shrubland vegetation and benefits Carnaby’s cockatoo. Activities undertaken that improve vegetation condition include fire suppression and management, revegetation of cleared areas and feral animal control.

In addition DEC has, with State and Commonwealth funds and via offsets for development approvals, purchased areas of remnant vegetation for inclusion in the conservation reserve system. Carnaby’s cockatoo habitat is often a key consideration in the selection of land acquisitions.

This recovery action and the management of habitat in a manner sympathetic to the requirements of Carnaby's cockatoo are vital for the persistence of the species across its range.

**(b) Planting of feeding habitat**

**(ii) Prepare and implement revegetation strategies for each priority area taking into consideration the range of planning and operational requirements needed for a successful revegetation program.**

See the answer in relation to recovery action 5.1.2.(b)(ii).

**ACTIONS 5.2: MANAGEMENT OF FEEDING HABITAT IN NON-BREEDING AREAS**

**5.2.1: NATIVE FEEDING HABITAT**

**(i) Manage heath/shrubland in land managed by the department**

See the answer in relation to recovery action 5.1.3 (a)(i).

**(ii) Develop guidelines for management of feeding habitat**

See the answer in relation to recovery action 5.1.2 (b)(ii).

**5.2.2: NON-NATIVE FEEDING HABITAT**

**5.2.2 (a) Gnangara Park**

**(i) Surveys of Carnaby's black-Cockatoos' use of Gnangara Park**

Studies of the use of the pine plantations by Carnaby's cockatoo have been carried out as part of planning for the future of Gnangara. The 2010 and 2011 Great Cocky Counts included many night roost sites in the Gnangara, Pinjar and Yanchep pine plantations.

As part of Gnangara planning, \$65,000 was provided to universities to carry out studies of the use of the pine plantations by Carnaby's cockatoo.

Implementation of this action does not significantly contribute to knowledge of changes to the extent of occurrence or the measurement of breeding success. It has provided important information to enable planning and management of the species in the northern Perth area.

**(b) Maritime pine program**

**(i) Develop a log book, and/or use current District Fauna Files**

This action is considered of minor importance and has not been implemented.

**ACTIONS 5.3: MONITORING OF POPULATION**

**(i) Develop monitoring procedures for landholders, print log books**

Landholders, private individuals and organisations are encouraged to provide records of Carnaby's cockatoo breeding, roosting and feeding to DEC. The WA Museum's Cockatoo Care Program and BirdLife Australia's Cockatoo recovery program also seek records.

The 2006, 2010, 2011 and 2012 Great Cocky Counts sought to include more night roost sites outside of the greater Perth metropolitan region in the roost count project. DEC provided \$110,000 to BirdLife Australia to coordinate the 2010 and 2011 Great Cocky Counts.

The wide range of locations across the south-west of Western Australia that landowners and others provide sighting records for is important in understanding occurrence of the species and relative abundance in monitored areas.

**(ii) Monitoring of nestling health**

See the answer in relation to recovery action 5.1.1 (ii).

**ACTIONS 5.4: COMMUNITY INVOLVEMENT**

**(i) Design and production of 'Recovery Kit'**

A significant amount of information that helps to raise community awareness of Carnaby's cockatoos has been produced, including:

- the Cockatoo Care program coordinated by the WA Museum;
- information sheets produced by DEC, the WA Museum, BirdLife Australia and others that provide information on the species as well as practical guidance on actions that can contribute to its recovery;
- public awareness programs at Perth Zoo and black cockatoos used for public presentations at schools, fêtes and conferences for community education and awareness; and
- internet information dealing with the conservation of black cockatoos including on the DEC, WA Museum, Perth Zoo and BirdLife Australia websites.

Community involvement programs for the recovery of Carnaby's cockatoo have gone beyond the production of information material and have included programs that deliver on-ground outcomes. Initiatives include projects carried out by DEC, including advice on nest boxes and on suitable plants, projects through regional NRM groups and also BirdLife Australia's Carnaby's Black-Cockatoo Recovery Project which support and financially assist landholders to undertake recovery actions such as fencing, revegetation and repairing hollows, provide weed and competitor control, and collect distribution data and monitor roosting (e.g. Great Cocky Count).

Some community involvement programs deliver on-ground recovery actions which contribute to improved recognition and conservation of breeding habitat. Many of the community involvement or information programs raise awareness of Carnaby's cockatoo and increase community support for the conservation and recovery of the species.

## **ACTIONS 5.5: CAPTIVE BREEDING PROGRAMS**

### **(i) Maintain captive-breeding program**

Carnaby's cockatoos have been held in captivity under DEC managed captive-rearing and 'disabled bird' projects, where cockatoos unable to survive in the wild were used in breeding and rearing programs. Related community-based efforts involving rehabilitation of injured and incapacitated cockatoos have resulted in around 500 cockatoos being returned to the wild after rehabilitation.

---