Department of Environment and Conservation
Our environment, our future

Fauna notes

Information about Western Australia's fauna

No. 33 Managing Muir's corella in blue gum plantations

This fauna note has been prepared to assist blue gum plantation companies to manage their land for the conservation and benefit of the endangered Muir's corella.

Muir's corella

Two subspecies of the western long-billed corella occur in Western Australia. Butler's corella (*Cacatua pastinator butleri)* occurs in the northern Wheatbelt and Muir's corella (*Cacatua pastinator pastinator)* is confined to the far south-west of Western Australia near Lake Muir (Figure 2). Muir's corella is rare and likely to become extinct.

Description

Muir's Corella is a medium-sized white cockatoo, 43-48 centimetres in length and weighs 560-815 grams. The birds' white feathers are often stained or dirty because they dig most of their food out of the ground with their long bills. The undersides of the wings and tail are sulphur yellow in colour and the birds have a blue grey ring of bare skin around the eye. The feathers between the eye and beak (and the bases of the feathers on the head and underparts) are a rich salmon-pink. This colour can be seen when the bird preens or the when the wind ruffles its feathers. Muir's corella gives a variety of loud, raucous calls.

Distribution and habitat

Muir's corella once inhabited woodlands and open country to the east of the main forest block in south-western Australia. It occurred north to the Swan and Avon Rivers, south to Albany and Augusta and east to Broomehill and the Stirling and Porongurup Ranges. Flocks of small numbers of birds were distributed in widely separated colonies.

The one remaining population occurs in south-west WA from Boyup Brook and Qualeup, south to the lower Perup River, Lake Muir, Cambellup and east to Rocky Gully and Frankland (Figure 2). Muir's corella is locally common but patchily distributed. It relies on remnant patches of woodland for nesting sites and the majority of nests are found in or adjacent to farmland and along roadsides and watercourses. This population, which once numbered only 100 is now thought to contain around 9,000 individuals.

Figure 1 Muir's corella (*Cacatua pastinator pastinator)* (Photo Babs and Bert Wells/DEC).

Diet

Muir's corella feeds on corms, tubers and seeds from a variety of introduced and native plants. The corms of guildford grass (*Romulea rosea)* appear to be an important food item from May to November, while cereal grains such as oats (*Avena sativa)*, barley (*Hordeum vulgare)*, and wheat (*Triticum aestivum)* are commonly eaten the rest of the year. Other introduced plants eaten include storksbill (*Erodium* spp.), and winter grass (*Poa annua)*. These corellas have been recorded eating native plant species including the bulbs of sundews (*Drosera* spp.), the roots of 'orchidaceous plants' and seeds from marri (*Corymbia calophylla)*, and spear grass (*Stipa* spp.).

Breeding

Most of the known nest hollows used by Muir's corellas are located in paddock trees, on roadsides and on the edge of forested areas. The hollows used are in both live and dead eucalypts, particularly marri and jarrah (*Eucalyptus marginate)*. Some breeding has been recorded in flooded gum (*E. rudis)*, yates and paperbarks (*Melaleuca* spp.). The birds remove small pieces of bark from around the entrance of the hollow during the breeding season.

One to three eggs are laid between September and November and they are incubated for 26-29 days. Survival rates of adult and immature Muir's corellas are unknown but most young birds probably die before reaching breeding age. On average, birds must be at least

three to five years old before they can breed and a breeding pair must breed for 10 years to replace itself. The average life expectancy of adult birds is estimated at 14 years for females and 17 years for males.

Behaviour

Muir's corella is a sociable bird, forming widely distributed flocks of 10 to 1,000 individuals. Flocks have traditional roosting sites (usually dense timber) from which they leave to feed in the morning and to which they return at night.

During the breeding season the nest tree is the focus of the birds' activities and the birds feed nearby. After fledging, the young and their parents are joined by other family groups to form large flocks that often disperse to summer feeding areas. At the end of summer, breeding adults return to their breeding areas. Immature birds form locally nomadic flocks and may return to the area where they were born or remain in the summer feeding areas.

Status and conservation

Muir's corella is endangered because it persists only as an isolated small population. It has a low reproductive rate and is vulnerable to changes in land management. It may also be at risk from the eastern long-billed corella (*C. tenuirostris)*. This species is now present in the Perth, Bunbury, Busselton, Denmark and Albany areas as a result of escapes or releases from aviaries. If the eastern long-billed corella became established in the Lake Muir area, it could compete with Muir's corella for food and pose a threat to the species through interbreeding. A recovery plan for Muir's corella has been prepared that seeks to strike a balance between the needs of landholders and these endangered birds.

The key actions that are needed to facilitate the recovery of Muir's corella are to preserve its feeding and breeding habitat. A high proportion of the remaining habitat for this species is now being converted to hardwood plantations.

How plantation companies can help

There are a number of steps that can be undertaken by plantation companies to protect the habitat of Muir's corella and assist in their conservation.

1. Preserve the damp valley floors. These areas are poor sites for growing plantation trees but they provide the food plants of the corellas. Providing an alternative feeding site may also keep the corellas from damaging young trees and agricultural crops.
2. Do not use herbicide on the valley floor. This will help protect waterways from pollution and protect the foods of the corellas.
3. Retain native live or dead trees. Large old paddock trees provide the hollows needed for Muir's corella to breed. The corellas prefer live trees but have been recorded breeding in dead trees. Wherever possible, existing trees should be retained on plantation land.
4. Re-stock. Although stock can damage young trees, there are advantages in returning stock to plantation sites after around three years as this keeps grasses short and allows Muir's corellas to graze areas along drainage lines more readily.
5. Monitor trapping activity. If Australian ringneck (*Barnardius zonarius)* parrots are controlled via trapping, the traps must be closely monitored. As part of this process any Muir's corellas (and any other non-target species) that become trapped must be released unharmed.

Damage

Muir's corella has been reported to damage newly sown oat crops, horticultural crops, newly planted trees, home gardens, television aerials and power lines. The species may consume stock feed, particularly in the summer months and pose a noise problem around homes.

Muir's corella is listed as a declared pest of agriculture under the provisions of the *Agriculture and Related Resources Protection Act 1976*, administered by the Western Australian Department of Agriculture and Food. This declaration allows for the approval and implementation of a management program in the Boyup Brook, Cranbrook and Manjimup shires.

As a native species, Muir's corella is protected under the provisions of the *Wildlife Conservation Act 1950*, administered by the Department of Environment and Conservation (DEC). Under this Act the bird is also listed as 'rare or likely to become extinct'. Because of this listing, it is illegal to destroy Muir's corella and offenders will be subject to prosecution.

Before scaring the birds, a damage licence must be obtained from DEC. For management options see the notes listed under further reading. A strategy comprising a number of techniques will probably be needed to reduce the damage caused by Muir's corella.

Further reading

- Fauna note no. 2. Scaring and repelling birds to reduce damage. DEC, Western Australia.
- Fauna note no. 13. Decoy feeding – providing alternative food to birds to reduce damage. DEC, Western Australia.
- Living with Muir's Corella, DEC, Western Australia.

References

DEC (2006) Muir's Corella Cacatua pastinator pastinator Recovery Plan 2006-2015. Department of Environment and Conservation, Western Australia.

Johnstone, R.E. and Storr, G.M. (1998) Handbook of Western Australian Birds. Volume 1. Non-passerines. WA Museum.

Smith, G.T. (1991) Breeding ecology of the Western Long-billed Corella, *Cacatua pastinator pastinator. Wildl. Res*. 18: 91-110.

Smith, G.T. and Moore, L.A. (1991) Foods of corellas *Cacatua pastinator* in Western Australia. *Emu* 91: 87-92.

Saunders, D.A., Rowley, I., and Smith, G.T. (1985) The effects of clearing for agriculture on the distribution of cockatoos in the southwest of Western Australia. In 'Birds of Eucalypt Forests and Woodlands: Ecology, Conservation, Management.' (Eds. Keast, A.,

Ford, H. and Saunders, D.) RAOU and Surrey Beatty and Sons, NSW.

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

Further information

Contact your local DEC office.

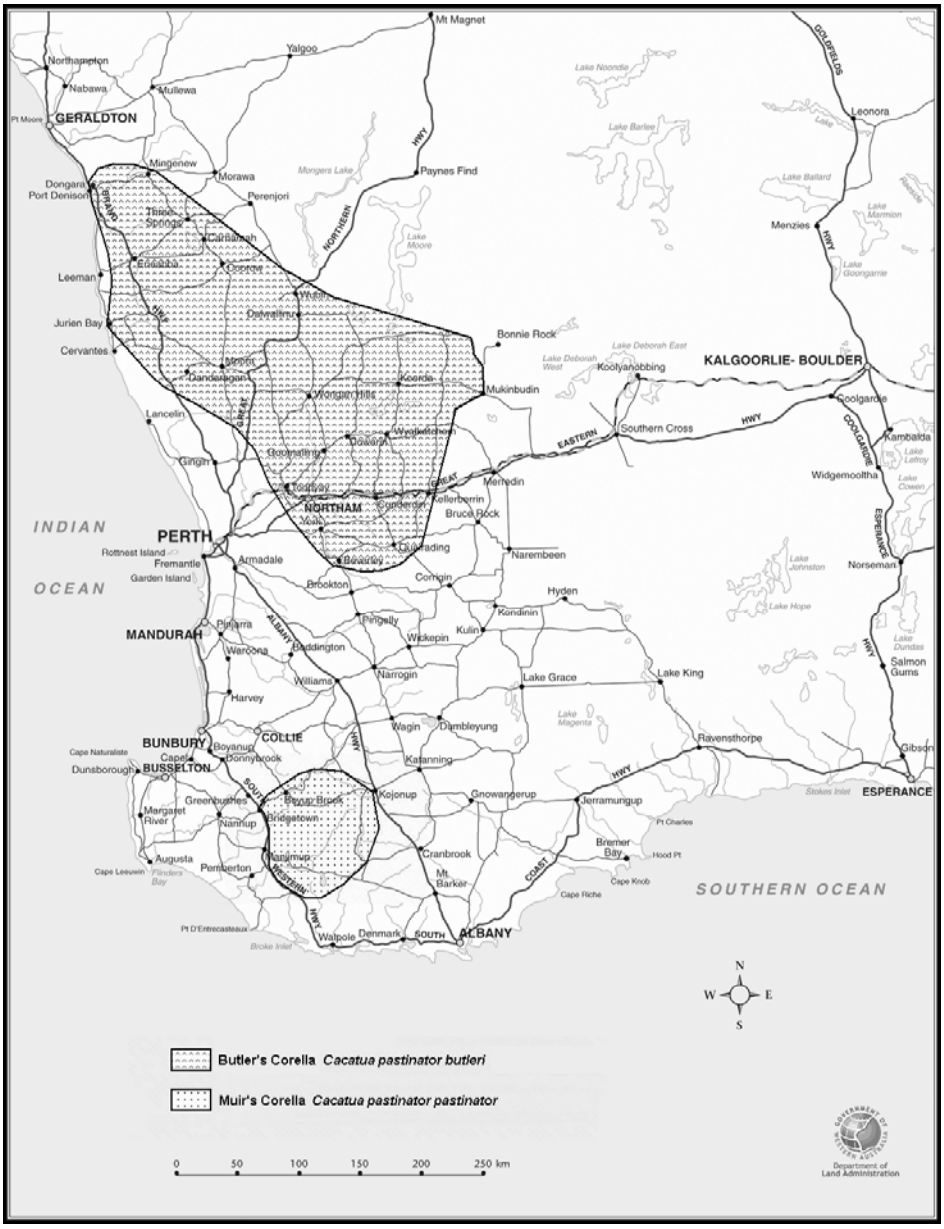

Figure 2 Distribution of Muir's corella (*Cacatua pastinator pastinator)* and Butler's corella (*Cacatua pastinator butleri)* (based on information taken from Johnstone and Storr (1998)).

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