

# NSW SCIENTIFIC COMMITTEE

## Red-lored Whistler *Pachycephala rufogularis*

Review of Current Information in NSW

April 2008

### Current status:

The Red-lored Whistler *Pachycephala rufogularis* is currently listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act), Threatened in Victoria under the *Flora & Fauna Guarantee Act* 1988 (FFG Act; Endangered on the Advisory List), and Rare in South Australia under the *National Parks and Wildlife Act* 1972 (NPW Act). The NSW Scientific Committee recently determined that the Red-lored Whistler meets criteria for listing as Critically Endangered in NSW under the *Threatened Species Conservation Act* 1995 (TSC Act), based on information contained in this report and other information available for the species.

### Species description:

The Red-lored Whistler is a small (21 cm in length) grey-brown songbird with a rusty orange face, throat and belly (separated by a grey breast-band), and red eyes. The female is much duller, almost lacking the orange. The Red-lored Whistler is very similar to the respective sexes of Gilbert's Whistler *Pachycephala inornata*, but the orange is much more extensive on the face and underparts.

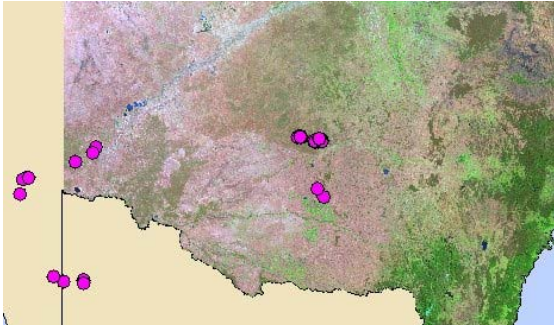
### Taxonomy:

*Pachycephala rufogularis* Gould 1841 (Pachycephalidae) is an endemic species in an endemic Australasian genus and family. It is regarded as monotypic (*i.e.* no subspecies), but there is insufficient information to determine whether the isolated population in central NSW is a separate subspecies from the main population in the Murray Mallee of South Australia (Higgins & Peter 2002).

### Distribution and number of populations:

Historically, there were two main populations of the Red-lored Whistler in NSW: one at Round Hill/Nombinnie Nature Reserves near Hillston, with an isolated outlier at Pulletop Nature Reserve near Griffith, and another population on Scotia Station (a reserve owned by the Australian Wildlife Conservancy) adjoining South Australia and north-west Victoria. The Pulletop subpopulation became extinct around 1982 (Higgins & Peter 2002). The species was recorded on Scotia Station in the first national bird atlas in 1977-1981 (at low reporting rates: Blakers *et al.* 1984), but not in the second atlas in 1998-2002 (Barrett *et al.* 2003). Recent intensive surveys in, and around Scotia, Tarawi Nature Reserve and Mallee Cliffs National Park failed to find the species (expert advice). Thus, there are now only one or perhaps two populations in NSW.

# NSW SCIENTIFIC COMMITTEE



**Figure 1:** Records of the Red-lored Whistler since 1980 (NSW Wildlife Atlas). Note: the southern population at Pulletop Nature Reserve in central NSW is now extinct.

## **Ecology:**

The some aspects of the ecology of the Red-lored Whistler are moderately well understood due to recent studies, but understanding is poor on the species' general biology (Higgins & Peter 2002).

### Key habitat requirements

The Red-lored Whistler inhabits mallee that is mature (but not senescent) or advanced regrowth, and mallee heath with a shrub layer (especially *Melaleuca uncinata* (Broom Bush) and a *Triodia sp.* (Spinifex) ground layer. Much of this habitat has been cleared, and remnants are degraded by too-frequent fire. The species is found mostly in mallee older than 20 years post-fire, with localised high densities at some sites aged between 20 and 35 years post-fire, though also greater than 36 years. The species requires a fairly dense shrub layer within mallee-spinifex associations (expert advice).

### Breeding biology

The Red-lored Whistler builds an open cup nest of plant fibres in the mallee canopy, or under overhanging foliage in the lower layers (*e.g.* shrubs, fallen branch, spinifex clump). A clutch of two or three eggs is laid in spring. The incubation period is about two weeks, and the nestling period is probably about two weeks (by analogy with other whistlers). Low nests are vulnerable to predation by cats and foxes, and to disturbance by livestock.

### Diet

The Red-lored Whistler feeds mostly on insects with some berries and seeds, gleaned primarily from the ground around shrubs. Its foraging habitat and food supply are vulnerable to overgrazing and fire.

### Social biology

The Red-lored Whistler occurs solitarily, in pairs, or in family groups of adults and dependent young during the post-fledging period.

### Territoriality/home range

Little is known, but sedentary pairs of Red-lored Whistlers maintain large, exclusive breeding territories (Higgins & Peter 2002).

# NSW SCIENTIFIC COMMITTEE

## Generation length

The generation length of the Red-lored Whistler is estimated as five years (Garnett & Crowley 2000).

## Ability to disperse/susceptibility to population fragmentation

Dispersing juvenile Red-lored Whistlers appear able to disperse long distances (Higgins & Peter 2002), inferred to be at least tens of kilometres as in other whistlers. However, the Whistler's local extinction at Pulletop Nature Reserve suggests that the species is adversely affected by habitat fragmentation. Isolated patches of mallee are thought to be incapable of supporting populations in the long term (Higgins & Peter 2002).

## **Number of mature individuals:**

This population of Red-lored Whistlers in NSW is extremely low. Annual bird reports over the past 15 years (1989-2004) have reported mostly single individuals, occasionally two or up to six, at Round Hill Nature Reserve and/or Nombinnie Nature Reserve/State Conservation Area. In seven of these years there were no birds reported (NSW Field Ornithologists Club data). In 2001, searches found at least six birds distributed between "three to four locations" in Round Hill/Nombinnie (NSW FOC annual bird report; one individual bird may have been recorded at two locations on different occasions). Recent intensive surveys found none in Scotia, Tarawi, Mallee Cliffs and private land in the area.

## **Threats:**

Historically, the main threat to the Red-lored Whistler was habitat clearing. Threats to remaining habitat include too-frequent fire, predation by cats and foxes, and overgrazing by livestock. 'High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition', 'Predation by the European Red Fox *Vulpes vulpes*', 'Predation by the Feral Cat *Felis catus*' are listed as Key Threatening Processes under the TSC Act in NSW.

## **Extreme fluctuations:**

There is no evidence of extreme fluctuations in population size or habitat of this species.

## **Population reduction and continuing declines:**

The Pulletop population of the Red-lored Whistler is now thought to be extinct, and there have been no published reports of the south-west NSW mallee population for over two decades. The only known extant population in Round Hill/Nombinnie Nature Reserve is now very small. The species requires mature or advanced regrowth mallee, with a shrub layer and spinifex clumps, for foraging and nesting, but much of this habitat has been degraded by frequent fire. Mallee remnants on grazing land are likely to be in suboptimal condition. For example, the Cobar Peneplain has a landscape stress rating of 3, and the Murray-Darling Depression a stress rating of 4, out of 6, although these regions are only 30% and 6% cleared, respectively (Barrett *et al.*

# NSW SCIENTIFIC COMMITTEE

2007). Long-term monitoring of mallee sites by DECCW staff has shown a decrease in whistler numbers due to a lack of mature-aged mallee from frequent fires.

Globally, the species' range has contracted and breeding populations have declined, with losses of subpopulations from small habitat remnants (Garnett & Crowley 2000; Higgins & Peter 2002). Declines in Victoria are continuing, with contraction to the larger reserves; losses from some reserves (Wathe, 5000 ha; Bronzewing, 13 000 ha and Annuello, 20 000 ha) over the last two to three decades suggest that reserves of this scale are insufficient for long-term persistence (expert advice). The Red-lored Whistler appears to be now extinct in Hattah National Park, which is contiguous with the 600 000 ha Murray Sunset National Park, a large portion of its core range in South Australia was burnt in 2006, and it appears to be extinct in Ngarkat Conservation Park (South Australia) owing to a combination of wildfire and drought (expert advice). These trends are taken as indicators of likely processes of decline in contiguous NSW.

## **Extent of Occurrence (EOO) & Area of Occupancy (AOO):**

The former and current EOO of the Red-lored Whistler are uncertain, partly because of historical confusion with Gilbert's Whistler, and uncertainty about the continued existence of some NSW populations. Similarly, the historical AOO for NSW is uncertain, but occupied area is a small proportion of available area. Only six birds have been found, across three to four sites, in Round Hill/Nombinnie Nature Reserve. Nonetheless, the Nature Reserves and State Conservation Area comprise a total of 132 300 ha. Despite relatively high abundance in Gluepot and Calperum reserves (South Australia), AOO is low and the South Australian population faces a high threat from wildfire (expert advice).

## **Severe fragmentation:**

The NSW population and habitat of the Red-lored Whistler are inferred to have been severely fragmented, from the extent of clearing of mallee for agriculture in western NSW, and the recent extinction of one subpopulation from a small, isolated reserve. The species' threshold of patch size for long-term persistence appears to be high.

## **References:**

- Barrett G, Silcocks A, Barry S, Cunningham R, Poulter R (2003) 'The New Atlas of Australian Birds'. (RAOU: Melbourne)
- Barrett GW, Silcocks AF, Cunningham R, Oliver DL, Weston MA, Baker J (2007) Comparison of atlas data to determine the conservation status of bird species in New South Wales, with an emphasis on woodland-dependent species. *Australian Zoologist* **34**, 37-77.
- Blakers M, Davies SJF, Reilly PN (1984) 'The Atlas of Australian Birds'. Melbourne University Press: Melbourne)
- Garnett S, Crowley G (Eds) (2000) 'The Action Plan for Australian Birds 2000'. (Environment Australia: Canberra)

# NSW SCIENTIFIC COMMITTEE

Higgins PJ, Peter JM (Eds) (2002) 'Handbook of Australian, New Zealand and Antarctic Birds', vol. 6. (Oxford University Press: Melbourne)

NSW Field Ornithologists Club (1988-2007) NSW annual bird reports, published annually in *Australian Birds*.

## Explanatory note

Between 2007 and 2009 the NSW Scientific Committee undertook a systematic review of the conservation status of a selection of plant and animal species listed under the Threatened Species Conservation Act. This species summary report provides a review of the information gathered on this species at the time the Review was undertaken.

The Scientific Committee's report on the Review of Schedules project and final determinations relating to species that were either delisted or had a change in conservation status can be found on the following website: [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au).

The Committee gratefully acknowledges the past and present Committee members and project officers who ably assisted the Committee in undertaking the Review of Schedules Project. Information on the people involved in the project can be found in the Acknowledgement section of the project report entitled "Review of the Schedules of the Threatened Species Conservation Act 1995. A summary report on the review of selected species" which is available on the abovementioned website.

This species summary report may be cited as:

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