

**Approved Conservation Advice for
Pezoporus wallicus flaviventris (western ground parrot)**

(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this species.

Description

Pezoporus wallicus flaviventris (western ground parrot), family Psittacidae, is a medium-sized, slender, long-tailed parrot about 30 cm in length and 84 to 110 g in weight (Burbidge et al. 1989; Johnstone and Storr 1998; Higgins 1999). Adults of both sexes are bright green with a diagnostic red or orange-red band across the forehead, a brown-grey to dark grey bill, pale yellow or light brown eyes, a yellow belly, black streaks on the head and neck, black blotches and streaks on the breast, black and yellow bars on the back, shoulders, underbody and tail, and cream to flesh-pink or brownish-grey legs and feet (Johnstone and Storr 1998; Higgins 1999).

The western ground parrot differs from the eastern ground parrot, *Pezoporus wallicus wallicus*, and the Tasmanian ground parrot, *Pezoporus wallicus leachi*, which both have thicker and more prominent black markings on the head, neck and belly (Higgins 1999). The three subspecies are also geographically isolated from one another. Genetic analysis by Murphy et al. (2010) suggests that the western ground parrot may warrant species status, however a formal revision of the ground parrot is needed to confirm this.

Conservation Status

The western ground parrot is listed as **critically endangered**. This species is eligible for listing as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as its geographic distribution is very restricted and is precarious for the survival of the species given the impact by current threats of predation by feral animals, and fire. The estimated total number of mature individuals is very low and evidence suggests that the number will continue to decline at a very high rate (TSSC, 2011).

The western ground parrot is also listed under Schedule 1 of the Western Australian *Wildlife Conservation Act 1950*, and managed as critically endangered (according to IUCN criteria) by the Western Australian Government.

Distribution and Habitat

The western ground parrot is confined to near coastal regions of south-western Western Australia and is currently known to occur in only two locations: Fitzgerald River National Park and Cape Arid National Park-Nuytsland Nature Reserve. A third population was present in the Mount Manypeaks-Waychinicup area in the late 1990s and early 2000s, but was not recorded in surveys conducted in 2004, 2005 and 2006.

The population in Fitzgerald River National Park was estimated to be 303 birds in 1990 (Watkins and Burbidge 1992). In 2006, this estimate had declined to less than 85 birds (Gilfillan et al. 2006). The population in Cape Arid National Park-Nuytsland Nature Reserve was estimated to be 75 birds in 1990. In 2006, this population was estimated to be 90 birds (Gilfillan et al. 2006). The population in the Mount Manypeaks-Waychinicup area was estimated to be 29 or more birds in 1998 (McNee 1999). A substantial decline was observed at this site during surveys between 2001 and 2003, with only four birds recorded in 2003 (Newbey 2002; 2003). No birds have been recorded during surveys in 2004, 2005 and 2006 (Newbey et al. 2006; Barth and Chemello 2007).

The species' area of occupancy in 2000 was estimated at 12 km² and its extent of occurrence was estimated at 1000 km² (Garnett and Crowley 2000). These are now presumed to be smaller, due to a declining population size and the presumed extinction of the Mount Manypeaks-Waychinicup population (Newbey 2002, 2003; Newbey et al. 2006; Barth and Chemello 2007).

This species occurs within the Esperance Plains Bioregion and the South Coast and Rangelands (WA) Natural Resource Management Regions. Its distribution is not known to overlap with any EPBC Act-listed threatened ecological community.

Threats

The main identified threats to the western ground parrot are large or frequent fires (Garnett and Crowley 2000) and predation by feral species such as the European red fox (*Vulpes vulpes*) and the feral cat (*Felis catus*) (Burbidge et al. 1997).

Potential threats include predation of eggs and chicks by the red imported fire ant (*Solenopsis invicta*), loss of genetic variation and inbreeding depression, and degradation of habitat (caused by weed invasion, dieback due to *Phytophthora cinnamomi*, trampling by hard-hoofed animals, and changes in hydrology (Burbidge et al. 1997; DEH 2006; Gilfillan et al. 2006). Ongoing changes in climate may exacerbate the threat and impacts of fire.

Adaptive Management

Historical records indicate that the western ground parrot once had a far more widespread distribution than today, having previously occurred in coastal and near coastal areas from Dongara to Cape Arid (Ashby 1921; Ford 1969; Watkins 1985). The species has been declining steadily since at least the 1990s, and is now restricted to just two locations on the south coast of Western Australia, at Fitzgerald River National Park and Cape Arid National Park–Nuytsland Nature Reserve (McNee and Newbey, 2003; Newbey et al., 2006). Despite its occurrence now being confined to these protected areas, the western ground parrot remains under threat, particularly from predation by feral species and large or frequent fires (Garnett and Crowley, 2000; Gilfillan et al., 2006). The recent extinction of the Waychinicup/Mount Manypeaks population (Newbey et al., 2006; Barth and Chemello, 2007) suggests that current management measures are inadequate in protecting the western ground parrot and preventing further decline in numbers.

The western ground parrot would benefit from the development of an adaptive management approach to conservation that integrates scientific research and monitoring programs into management plans of the national parks and nature reserves within which the species occurs. Such an approach would enable flexibility in the prioritisation of management actions, so that conservation effort can be refocused as new research becomes available.

In developing an adaptive management approach for the conservation of the western ground parrot, the following recommended research priorities and action priorities should be considered and prioritised:

Recommended Research Priorities

- Support and enhance existing monitoring programs. This includes monitoring the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Identify optimal fire regimes for habitat regeneration (vegetative regrowth and/or seed germination), and response to other prevailing fire regimes.
- Continue to investigate the potential effects of climate change on disturbance (particularly fire) regimes in the species' habitat.

- Investigate the feasibility of developing and implementing a translocation program and/or a captive breeding program.
- Investigate the western ground parrot's dietary requirements.

Recommended Themes for Priority Actions

- **Animal Predation:** The control and eradication of feral cats and foxes in the region may be facilitated through the implementation of the threat abatement plans for predation by the European red fox (DEWHA 2008a) and feral cats (DEWHA 2008b). Furthermore, any new information on these feral species within the range of the western ground parrot, such as population size, population dynamics and distribution, should be incorporated into the adaptive management approach. Similarly, the presence and impact of other potentially threatening invasive species (such as the red imported fire ant) should be monitored, and management actions adapted as required.
- **Fire Management:** The development and implementation of a suitable fire management strategy for the areas within which the western ground parrot occurs is important for the protection and recovery of this species. Where appropriate, maps of known occurrences of the western ground parrot should be provided to local and state Rural Fire Services, and mitigation measures should be included in bush fire risk management plans, risk registers and/or operation maps.
- **Habitat Loss, Disturbance and Modification:** Disturbance in areas where the western ground parrot occurs should be minimised (excluding necessary actions to manage the conservation of the species) to allow the recovery and conservation of the species' habitat. Establishment of additional habitat should also be facilitated. Any factors that affect the integrity of the species' habitat, including changes to hydrology that may affect the water table, salinity levels, and resulting vegetation structure and composition, should be monitored and managed. Any other known, potential or emerging threats to the western ground parrot's habitat, including disturbance to vegetation by hard-hoofed animals, weed invasion, and climate change, should be incorporated into the adaptive management approach.
- **Diseases, Fungi and Parasites:** Implement the threat abatement plan for dieback caused by the root-rot fungus *Phytophthora cinnamomi* (EA 2001).
- **Translocation and/or captive breeding:** Depending upon outcomes of assessment of risks, feasibility, and cost-effectiveness, establish a captive breeding program (to maintain a security population) and implement one or more experimental translocations to suitable habitat in which threats are adequately managed.
- **Conservation Information:** Continue to raise awareness of the western ground parrot within the local community, and encourage community participation in recovery actions such as monitoring programs and habitat revegetation. Investigate options for linking, enhancing or establishing additional populations, such as a translocation program and/or captive breeding program.

Existing Plans/Management Prescriptions that are Relevant to the Species

These prescriptions were current at the time of publishing; please refer to the relevant agency's website for any updated versions.

- Western Ground Parrot Interim Recovery Plan 1996 to 1999 (Burbidge et al. 1997)
- A multi-species recovery plan for Western Australian south coast threatened birds, which includes the western ground parrot, is currently in preparation.

Other plans related to the western ground parrot include:

- Threat abatement plan for dieback caused by the root-rot fungus *Phytophthora cinnamomi* (EA 2001),
- Threat abatement plan to reduce the impacts of tramp ants on biodiversity in Australia and its territories (DEH 2006),
- Threat abatement plan for predation by the European red fox (DEWHA 2008a), and
- Threat abatement plan for predation by feral cats (DEWHA 2008b).

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