

# Threatened Species of the Northern Territory

## PARTRIDGE PIGEON

(eastern subspecies)

### *Geophaps smithii smithii*

#### Conservation status

Australia: Vulnerable

Northern Territory: Vulnerable



Partridge Pigeon (Photo: M Armstrong)

#### Description

The partridge pigeon is an unmistakable ground-dwelling pigeon. It is medium-sized (slightly smaller than the feral pigeon *Columba livia*), grey-brown bird with conspicuous white leading edge to the wing and red bare skin on the face. It forages entirely on the ground, and, except when flushed in alarm, rarely flies.

The subspecies occurring in the Northern Territory *G. smithii smithii* differs from the other subspecies *G. s. blauwii* (of the Kimberley) in colour of the bare skin around the face.

#### Distribution

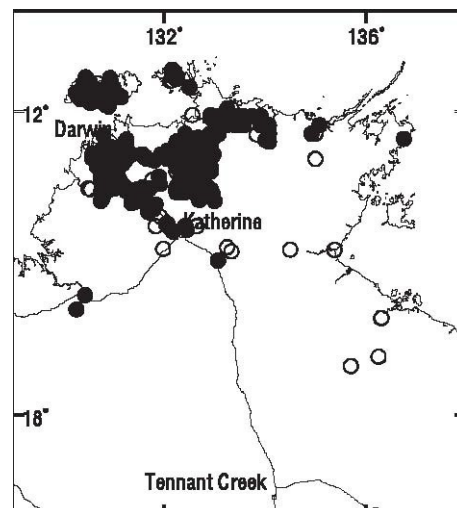
The partridge pigeon occurs across the Top End of the Northern Territory and Kimberley. However it has declined or disappeared from much of the lower rainfall parts of this range over the last century. It is sparse in eastern and central Arnhem Land.

Conservation reserves where reported:

Blackmore River Conservation Reserve,  
Butterfly Gorge Nature Park,

Garig Gunak Barlu National Park, Gregory National Park, Kakadu National Park, Litchfield National Park, Mary River National Park, Nitmiluk National Park, Territory

Wildlife Park/Berry Springs Nature Park, Tjuwaliyn (Douglas) Hot Springs Park, Umbrawara Gorge Nature Park.



Known locations of the partridge pigeon.

□ = pre 1970; • = post 1970.

#### Ecology

The diet of the partridge pigeon comprises seeds, mostly of grasses but also from *Acacia* and other woody plants (Higgins and Davies 1996). It is largely sedentary, although may make local-scale movements (up to 5-10 km) in response to seasonal variations in water and food availability (Fraser 2001). It typically occurs singly or in small family groups, but larger aggregations may occur, especially in the late dry season, around water sources. It

nests on the ground, mostly in the early dry season (Fraser 2001), with “nest” location preferentially in sites with relatively dense grass cover. Such sites contrast to the relatively open (typically burnt) areas preferred for feeding, and suggest that the species may be much affected by fire regimes. Small, patchy fires have been recommended for the management of this species (Fraser et al. 2003).

Partridge pigeons occur principally in lowland eucalypt open forests and woodlands, with grassy understoreys.

### **Conservation assessment**

The partridge pigeon has declined substantially in the Northern Territory, and probably also in the Kimberley (Johnstone 1981; Garnett and Crowley 2000; Fraser 2001), although is still abundant in some locations (e.g. parts of Kakadu National Park, Litchfield National Park and Tiwi Islands: Woinarski et al. 2003). The timing and currency of this decline is poorly resolved, but may have occurred gradually over the last century (Franklin 1999). This uncertainty renders the fit to IUCN criteria difficult to judge. The eastern subspecies of partridge pigeon most closely matches Vulnerable criterion C1 (population size <10,000 mature individuals and estimated continuing decline of at least 10% within 10 years), although it is noted that Garnett and Crowley (2000) estimated (with low reliability) that the population was 15,000 (and decreasing).

Threatening processes Partridge pigeons face a number of threats, whose relative impacts have not been well established. As they

forage, nest and roost on the ground, partridge pigeons are highly susceptible to predation by feral cats. Partridge pigeons are also dependent upon daily access to water for drinking, so are likely to do poorly in relatively dry years, and will be affected by any manipulation of water sources.

But probably the most important threats are the inter-related changes in grass composition and fire regimes.

Across much of the Top End, exotic grasses (including mission grass *Pennisetum*

polystachion, gamba grass *Andropogon gayanus* and/or other African and South American grasses) have spread rapidly over recent decades (e.g. Kean and Price 2003), and, where now present, have greatly reduced the diversity of native grasses. This will change the diversity, timing and abundance of seeds available as food to the partridge pigeon. Fire regimes have also changed appreciably over the Top End (and Tiwi islands) over the last century, and continue to change.

Traditional Aboriginal fire regimes were probably far more patchy and fine-scale than the regimes now prevailing. The partridge pigeon was probably greatly advantaged by a regime of frequent, patchy but localised fire, and is probably disadvantaged by the current regime of fewer but more extensive fires (Fraser et al. 2003). That current regime is now being made even more disadvantageous by the high fuel loads associated with exotic grasses, that make for far hotter and more extensive fire (Rossitter et al. 2003).

Partridge pigeons may also be affected by the change in vegetation composition and structure caused by livestock and feral animals, although the direction and magnitude of this impact is uncertain. In some cases, grazing by stock may create the more open and patchy ground layer preferred by partridge pigeons (Fraser 2001).

Partridge pigeons occur principally in tall eucalypt open forest, and their population will be reduced wherever these areas are cleared. This habitat is that currently most subjected to conversion for horticulture or forest plantation (Woinarski 2004a).

### **Conservation objectives and management**

A national recovery plan for the eastern partridge pigeon, and other species, has recently been established (Woinarski 2004b).

The major conservation management objective is to maintain extensive areas of eucalypt open forest with intact native grass species composition, and subject to a fine-scale relatively frequent fire regime.

The basis of a monitoring program for this species has been established in Kakadu National Park (Fraser et al. 2003; Woinarski 2004c) and on the Tiwi Islands (D. Baker-Gabb pers. comm.), and maintenance or expansion of these programs will be necessary to provide a more informed measure of population trends and responses to management.

## Compiled by

John Woinarski [April 2006]

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