

**Black Falcon, *Falco subniger*  
Species Profile**



Photo: Lindsay Cupper (Viridans 2002)

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## Conservation Assessment

### Taxonomy

1. What are the currently accepted scientific and common name/s for the species? Note any other scientific names that have been recently used.

Common name: Black Falcon  
Scientific name: *Falco subniger*  
Family: Accipitridae  
Order: Falconiformes

2. Is this species conventionally accepted? If not, explain why. Is there any controversy on the taxonomy?

The above names are used consistently (Fitzsimons and Ashe 2003, Hollands 2003, Marchant and Higgins 1993, OzBirds 2007, Readers Digest 1979, Viridans 2000, Viridans 2007), with no sub-species recognized variations or geographic variations (Marchant and Higgins 1993).



**Above:** 1. Adult female, 2. adult male, 3. juvenile male (modified, from Marchant and Higgins 1993).

**Right:** Dark feathers of juvenile contrast with adult female plumage (Copper and Copper 1981).

Length: 450 – 550mm. Female larger than male. (Copper and Copper 1981).

Wingspan: 347 – 464mm

Weight: 600 – 100g (Marchant and Higgins)



1993).

A Black Falcon is distinguished from similar raptors by the sharply pointed wingtips, dark colour and fast, powerful wing beats (Semmens, Cupper and Cupper 1981).

The Black Falcon is very fast and acrobatic. Examples include catching grasshoppers with its feet, while flying a meter off the ground, even rolling almost upside down to grab one that jumped above it (Hollands 2003), dive-bombing a Black-shouldered Kite, causing the Kite to drop a mouse, which the Falcon then caught (Hollands 2003).

Black Falcons are generally found singularly, also cooperatively hunting and feeding as a group on plagues. Both parents may assist raising juveniles, to form a small group until chicks reach adulthood.

#### 6. Identify major studies on the species

In many of the studies that include Black Falcons, the records are an incidental part of a broader ornithological study (for example; Hollands 2003). For a list of surveys which studied Black Falcons see part 18, "Survey Effort".

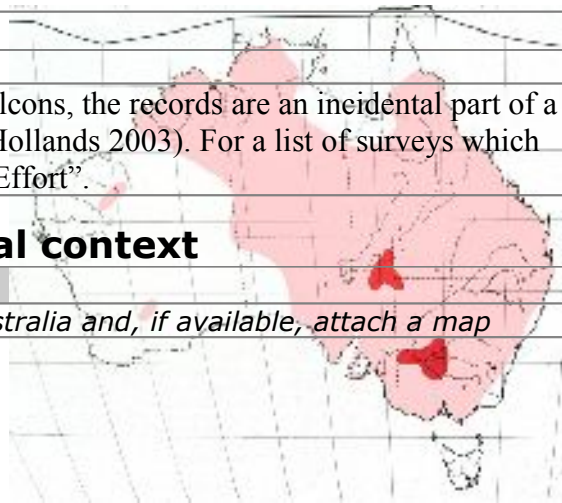
### National context

#### Distribution

#### 7. Describe the species' distribution in Australia and, if available, attach a map

Black Falcons are endemic to Australia, occurring sparsely across semi-arid areas.

Considered partly migratory, partly dispersive, with travel regulated by availability of food (Marchant and Higgins 1993). The following map is consistent with Wildlife Atlas records, and shows areas which Black Falcons might be seen in. Darker areas on the map show known breeding areas.



#### 8. What is the extent of occurrence (in km<sup>2</sup>) for the species (explain how it was calculated and datasets used)

- What is the current extent of occurrence?
- What data is there to indicate past declines in extent of occurrence (if available, include data that indicates the percentage decline over the past 10 years or 3 generations whichever is longer)?
- What data is there to indicate future changes in extent of occurrence (if available, include data that indicates the percentage decline over 10 years or 3 generations whichever is longer (up to a maximum of 100 years in the future) where the time period is a continuous period that may include a component of the past)?

Black Falcon habitat consists of elements within a landscape. Defining the extent of habitat within their broad range may be best achieved by studying its elements. Black Falcons are known to be opportunist, essentially living off anything from locust to rabbit to large bird, and go to areas where plagues occur. Any areas developed with clearing, irrigation and pest animal control is likely to no longer be suitable habitat. Conversely Black Falcons have been observed following machinery to prey on quails or other animals flushed out.



Water saving efforts of capping bores and piping water may have negative implications for birds are unclear and in need of urgent study (Olsen and Weston 2004). Black Falcons have been observed near open water bores, preying on species drawn to the water (Hollands 2003).

9. *What is the area of occupancy (in km<sup>2</sup>) for the species (explain how calculated and datasets that are used)*

- a. *What is the current area of occupancy?*
- b. *What data is there to indicate past declines in area of occupancy (if available, include data that indicates the percentage decline over the past 10 years or 3 generations whichever is longer)?*
- c. *What data is there to indicate future changes in area of occupancy (if available, include data that indicates the percentage decline over 10 years or 3 generations whichever is longer (up to a maximum of 100 years in the future) where the time period is a continuous period that may include a component of the past)?*

The area per breeding pair of Black Falcons varies from 15km<sup>2</sup> to 134 km<sup>2</sup>. These figures are based on actual nests located in various surveys. (Marchant and Higgins 1993). Possibly the breeding areas do not overlap with Peregrine Falcons (Hollands 2003).

10. *Is the species' distribution severely fragmented? Why?*

**Severely fragmented** refers to the situation in which increased extinction risk to the taxon results from most individuals being found in small and relatively isolated subpopulations (in certain circumstances this may be inferred from habitat information). These small subpopulations may go extinct, with a reduced probability of recolonization.

The Black Falcons is semi-nomadic, and able to travel very quickly. Accounts of their ability to soar, suggests an ability to travel great distances with little effort.

11. *How many locations do you consider the species occurs in and why?*

The term '**location**' defines a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the species present. The size of the location depends on the area covered by the threatening event and may include part of one or many subpopulations. Where a species is affected by more than one threatening event, location should be defined by considering the most serious plausible threat.

In 1993 there were at least 11 known breeding sites (Marchant and Higgins 1993).

## Habitat

12. *Give a brief description of the species' habitat/s*

Along dry creek beds, billabongs, waterholes, water troughs and other water features in open vegetation of dry inland areas (Hollands 2003). Less common in open forests, woodlands and terrestrial wetlands of tropical and temperate Australia (Marchant and Higgins 1993).

## Populations

13. *What is the species' total population size in terms of number of mature individuals? Are there other useful measures of population size and what are they?*

In the absence of figures, terms such as common, abundant, scarce can be of value.

Unknown.

14. *Does the species occur in a number of smaller populations? How many? If available, for each population give the locality, numbers and trends in numbers and tenure of land (if available) (include extinct populations). Can these be considered to be subpopulations and why?*

**Subpopulations** are defined as geographically or otherwise distinct groups in the population between which there is little demographic or genetic exchange (typically one successful migrant individual or gamete per year or less).

Black Falcons are known to have a sparse, nation-wide distribution, with two strong populations; around Lake Eyre and around the Murray & Darling River junction.

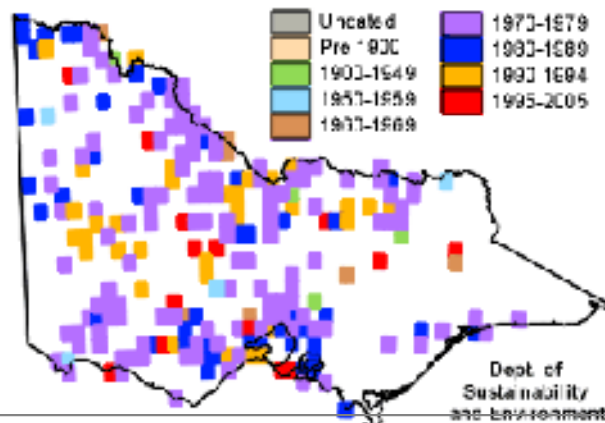


(Marchant and Higgins 1993).

15. *What is the population trend for the entire species?*

- a. *What data is there to indicate past decline in size (if available, include data on rate of decline over past 10 years or 3 generations whichever is longer)?*
- b. *What data is there to indicate future changes in size (if available, include data which will indicate the percentage of decline over 10 years or 3 generations whichever is longer (up to a maximum of 100 years in the future) where the time period is a continuous period that may include a component of the past)?*

The Black Falcon is suspected to be threatened, with protection of tall habitat trees recommended (Venn 2003). Similar to the Grey Falcon, the Black Falcon's current range and population size is most likely unknown.



**Right:** A distribution map shows declining number of records per decade (Viridans 2007).

16. *Does the species undergo extreme natural fluctuations in population numbers, extent of occurrence or area of occupancy? To what extent and why?*

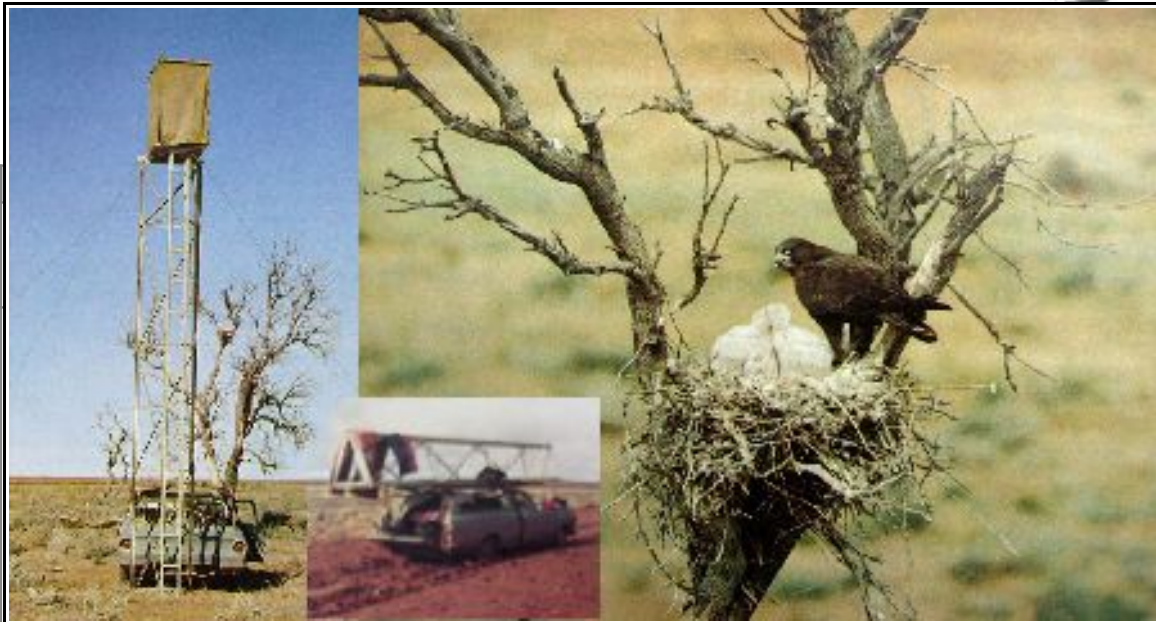
**Extreme fluctuations** can be said to occur in a number of taxa when population size or distribution area varies widely, rapidly and frequently, typically with a variation greater than one order of magnitude (i.e. a tenfold increase or decrease).

May move to coastal regions during drought and subsequent food shortages (Robinson & Franklin 1983, in Marchant and Higgins 1993). Prefers to hunt on open ground, leaving coastal regions after rains (Marchant and Higgins 1993).

17. *What is the generation length and how it is calculated?*

**Generation length** is the average age of parents of the current cohort (i.e. newborn individuals in the population). Generation length therefore reflects the turnover rate of breeding individuals in a population. Generation length is greater than the age at first breeding and less than the age of the oldest breeding individual, except in taxa that breed only once. Where generation length varies under threat, the more natural, i.e. pre-disturbance, generation length should be used.

The age of Black Falcon's first pairing is unknown, but most likely several years (Marchant and Higgins 1993). The estimate was made by David Hollands, after seasons of watching Black Falcons nesting (Marchant and Higgins 1993, Hollands 2003).



**BEST EFFORT:** Lindsay Cupper and David Holland, 1975, observing Black Falcons nesting from a hide at Sturt Desert, using a tower that they carried down a muddy Birdsville track on the roof of their Ford Falcon (Cupper & Cupper 1981).

**Published surveys include:**

- Austin, C.N. 1953, *Emu* 53: 77-80.  
 Baker-Gabb, D.J. 1984, *Aust. Wildl. Res.* 11:145-60  
 Bedgood, G.W. 1979, *Aust. Bird Watcher* 8:31-4  
 Bravery, J.A. 1970, *Emu* 70:49-63.  
 Cupper, J, and Cupper, L., (1981) *Hawks in Focus, a study of Australia's birds of prey*, Jaclin Enterprises, Mildura, Australia.  
 Czechura, G.V. 1984, pp.300-11 in: Coleman, R.J. *et al* (eds) (1984) *Focus on Stradbroke*, Boolarong Publs, Brisbane.  
 Czechura, G.V. 1985, *Corella* 9: 114-20.  
 Fraser, T., 1985, *Aust. Bird watcher* 11:57-60.  
 Henle, K., 1989, *Aust. Birds* 22:53-68.  
 Horton, W. 1975 *Sunbird* 6:49-69  
 Le Soueff, A.S. 1944, *Emu* 43:218.  
 Mathison, G., 1977, *Geelong Nat.* 14:10-11.  
 McGilp, J.N., 1934, *S. Aust. Orn.* 12:261-92.  
 Olsen, J. 1975, *Canberra Bird Notes*, 3(2):6-9.  
 Parker, S. 1969, *S. Aust. Orn.* 25:59-71.  
 Robinson, J., and Franklin, D., 1983, *Whirrakee* 4:8-11.  
 Vestjens, W.J.M. 1977 *Tech. Memo. Div. Wildl. Res. CSIRO, Aust.* 12.

Long-term monitoring programs rely on dedicated bands of volunteers (Olsen and Weston 2004), who provide data to a regional coordinator of bird atlas for Birds Australia (Semmens 2007).

**Threats**

19. *Identify past, current and future threats, to the species indicating whether they are actual or potential. For each threat, describe:*
- a. *how and where it impacts on this species*
  - b. *what its effect has been so far (indicate whether it is known or suspected; present supporting information/research; does it only affect certain populations)*
  - c. *what is its expected effect in the future (is there supporting research/information; is the threat only suspected; does it only affect certain populations)*



Predation by feral cats; recorded impacts include loss of chicks from a nest, (Hollands 2003). Feral cats remain widespread across Australia (Buckmeister 2007). The presence of feral cats across the entire Black Falcon's range make them a threat to the entire population.

Loss of nesting trees is considered a threat to the closely related Grey Falcon (Venn 2003).

20. *If not included above, identify catastrophic threats, i.e. threats with a low predictability that are likely to severely affect the species - Identify the threat, explain its likely impact and indicate the likelihood of it occurring (e.g. a drought/cyclone in the area every 100 years)*

As a fast, highly mobile and adaptable predator, Black Falcons could escape most catastrophes and find any available food. Remote possibilities that could threaten species might be;

- success with genetically modified crops, which allow vast areas to be cultivated with all fauna removed,
- severe drought combined with salinity and covering of retained fresh water sources,
- widespread hunting campaign, if perceived as a threat, such as a disease carrier.
- competition from other raptors during food shortages, and
- preying on poisoned carrion..

21. *Identify and explain any additional biological characteristics particular to the species that are threatening to its survival (e.g. low genetic diversity)? Identify and explain any models addressing survival of the species.*

None found.

### Threat abatement and recovery

22. *Identify key management documentation available for the species, e.g. recovery plans, conservation plans, threat abatement plans.*

None were found that specifically addresses Black Falcons. Of relevance is a Victorian Flora and Fauna Guarantee Act 1988, *Action Statement 83: Grey Falcon* (Venn 2003). Some threat abatement plans would assist in maintaining habitat elements.

A feral cat eradication program would be beneficial to Black Falcons, as it would both save nesting chicks and increase available prey.

23. *Give an overview of how threats are being abated/could be abated and other recovery actions underway/proposed. Identify who is undertaking these activities and how successful the activities have been to date*

No programs found that specifically assist Black Falcons. Individual birds may have been assisted by wildlife shelters and sanctuaries.

24. *Which populations are in reserve systems? Which of these are actively managed for this species? Give details*

No records found for Black Falcons in captivity.

## References

### Reference list

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 Buckmeister, T., (2007), personal communication; (Tony Buckmeister is conducting a



- radio tracking survey of feral cats in far-east Gippsland as a Ph.D. study).
- Cupper, J, and Cupper, L., (1981) *Hawks in Focus, a study of Australia's birds of prey*, Jaclin Enterprises, Mildura, Australia.
- Fitzsimons, J.A. and Ashe, C. (2003) *Some Recent Strategic Additions to Victoria's Protected Area System 1997-2002*, The Victorian Naturalist 120 (3), 2003, 98-108.
- Hollands, D., (2003) *Eagles Hawks and Falcons of Australia, 2<sup>nd</sup> edition*, Bloomings Books Pty Ltd, Melbourne, Australia.
- Marchant, S., and Higgins, P.J. (eds) (1993) *Handbook of Australian, New Zealand and Antarctic Birds, Volume 2, Raptors to Lapwings*, Oxford University Press, Melbourne, Australia.
- Olsen, P., and Weston, M., compilers, (2004) *The state of Australia's birds 2004, water, wetlands and birds*, supplement to *Wingspan* vol 34, no. 4, December 2004, Birds Australia.
- OzBirds (2007), *Black Falcon*, website accessed March 2007, from <http://birdsinbackyards.net/finder/display.cfm?id=232>
- Readers Digest (1979) *The Reader's Digest Complete Book of Australian Birds*, Reader's Digest Pty Ltd, 26-32 Waterloo St, Surrey Hills, NSW 2010.
- Semmens, B., (2007) personal communication; Bob Semmens is far-east Gippsland coordinator of bird atlas for Birds Australia, former Park Ranger & well known ornithologist.
- Venn, D., compiler (2003) *Action Statement No.83, Grey Falcon, Falco hypoleucos*, Department of Sustainability and Environment, the State of Victoria.
- Viridans (2000) *Wild Animals of Victoria*, CD-rom, 614 Hawthorn Rd, Brighton East, VIC, 3187.
- Viridans (2007), *rare animals of Victoria*, website accessed March 2007, from <http://www.viridans.com.au/RAREAN/Var0238.htm>