

A statement for the purposes of approved conservation advice
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

Approved Conservation Advice for
***Lagorchestes conspicillatus conspicillatus* (Spectacled Hare-wallaby (Barrow Island))**

This Conservation Advice has been developed based on the best available information at the time this conservation advice was approved.

Description

Lagorchestes conspicillatus conspicillatus, Family Macropodidae, also known as the Spectacled Hare-wallaby (Barrow Island), is a small wallaby with a conspicuous orange ring around its eyes. Its back and sides are covered with brown fur with white tips, and its underside is white. The tail fur is grey-brown with dark tips, and the feet are pale grey-brown. There is also a white hip-stripe. The Spectacled Hare-wallaby (Barrow Island) grows to 470 mm long and weighs up to 4.5 kg (Strahan, 1995).

Conservation Status

The Spectacled Hare-wallaby (Barrow Island) is listed as **vulnerable**. This species is eligible for listing as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, prior to the commencement of the EPBC Act, it was listed as vulnerable under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). This subspecies is also listed as threatened under the *Wildlife Conservation Act 1950* (Western Australia).

Distribution and Habitat

The Spectacled Hare-wallaby (Barrow Island) is known from Barrow and Boomerang Islands, off the coast of Western Australia, to the west of Karratha. Barrow Island is a small (233 km²) limestone island dominated by *Triodia* grasslands. It occurs throughout Barrow Island at densities of 42/km² with an estimated population of 10 000 (Short & Turner, 1991). The subspecies previously also occurred on Hermite Island, but declined to extinction following the introduction of feral cats (*Felis catus*) and rabbits (*Oryctolagus cuniculus*) to the island. The Spectacled Hare-wallaby (Barrow Island) occurs within the Rangelands (Western Australia) Natural Resource Management Region.

On Barrow Island, the Spectacled Hare-wallaby (Barrow Island) occurs in all habitat types. It shelters during the day under tussocks of *Triodia* (Short & Turner, 1991).

Another subspecies, *L. conspicillatus leichardti*, occurs on the mainland, where it is considered rare and scattered in Western Australia, but more common in the Northern Territory and Queensland (Ingleby, 1991), where it inhabits open forests, woodlands, shrublands, and hummock grasslands, preferring areas where there is a mosaic of vegetation due to differences in fire history (Ingleby, 1991).

The distribution of this species is not known to overlap with any EPBC Act-listed threatened ecological communities.

Threats

The main identified threats to the Spectacled Hare-wallaby (Barrow Island) include habitat degradation from commercial infrastructure development; and inbreeding depression and stochastic events leading to the extinction of small isolated populations.

The main potential threats to the Spectacled Hare-wallaby (Barrow Island) include predation by feral cats and European red foxes (*Vulpes vulpes*); habitat degradation by rabbits (*Oryctolagus cuniculus*); and inappropriate fire regimes.

Research Priorities

Research priorities that would inform future regional and local priority actions include:

- Monitor existing population to detect trends in population numbers and structure.
- Investigate the fire ecology of the subspecies and develop optimal fire regime recommendations.
- Undertake survey work in suitable habitat and potential habitat, especially on adjacent conservation reserves, to locate any additional populations/occurrences.
- Investigate the impacts of infrastructure developments on the subspecies.
- Investigate captive breeding.

Regional and Local Priority Actions

The following priority recovery and threat abatement actions can be done to support the recovery of the Spectacled Hare-wallaby (Barrow Island).

Habitat Loss, Disturbance and Modification

- Protect areas of vegetation that contain populations of the Spectacled Hare-wallaby (Barrow Island).
- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on the Spectacled Hare-wallaby (Barrow Island).
- Ensure maintenance and building activities associated with infrastructure or development activities in areas where the subspecies occurs do not adversely impact on known populations.
- Minimise adverse impacts from land use at known sites.
- Following decommissioning rehabilitate land impacted by industry activities.
- Protect populations of the listed species through the development of conservation agreements and/or covenants.

Invasive Weeds

- Identify and remove weeds on the island, which could become a threat to the Spectacled Hare-wallaby, using appropriate methods.
- Manage the island to prevent introduction of invasive weeds, which could become a threat to the Spectacled Hare-wallaby, using appropriate methods.

Animal Predation or Competition

- Monitor Barrow Island to ensure feral animals such as cats, foxes and rabbits do not establish populations.
- Implement actions in relevant threat abatement plans if feral animals do become a threat.

Fire

- Develop and implement a suitable fire management strategy for the Spectacled Hare-wallaby (Barrow Island).
- Provide maps of known occurrences to local and state Rural Fire Services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

Enable Recovery of Additional Sires and/or Populations

- Investigate options for linking, enhancing or establishing additional populations.
- Implement appropriate translocation protocols using national translocation protocols if establishing additional populations is considered necessary and feasible.

Conservation Information

- Raise awareness of the Spectacled Hare-wallaby (Barrow Island) within the local community and local industries.

This list does not necessarily encompass all actions that may be of benefit to the Spectacled Hare-wallaby (Barrow Island), but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

Existing Plans/Management Prescriptions that are Relevant to the Species

- Threat Abatement Plan for Predation by Feral Cats (EA, 1999a),
- Threat Abatement Plan for Predation by European Red Fox (EA, 1999b), and
- Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (EA, 1999c).

Information Sources:

Environment Australia (EA) 1999a, *Threat Abatement Plan for Predation by Feral Cats*. Biodiversity Group Environment Australia, Canberra, viewed 11 March 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/cats/index.html>>.

Environment Australia (EA) 1999b, *Threat Abatement Plan for Predation by European Red Fox*. Biodiversity Group Environment Australia, Canberra, viewed 11 March 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/foxes/index.html>>.

Environment Australia (EA) 1999c, *Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits*. Biodiversity Group Environment Australia, Canberra, viewed 11 March 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/rabbits/index.html>>.

Ingleby, S 1991, 'Distribution and status of the Spectacled Hare-wallaby, *Lagorchestes conspicillatus*', *Wildlife Research*, vol. 18, pp. 501-519.

Short, J & Turner, B 1991, 'Distribution and abundance of Spectacled Hare-wallabies and Euros on Barrow Island, Western Australia', *Wildlife Research*, vol. 18, pp. 421-429.

Strahan, R 1995, *The Mammals of Australia*, Reed New Holland, Sydney.