

Approved Conservation Advice for
***Leioproctus douglasiellus* (a short-tongued bee)**

(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

Leioproctus douglasiellus, Family Colletidae, is a small black bee which belongs to a group of species characterised by short tongues. Female specimens are 8 mm in length, with a wing length of almost 5 mm (DEC, 2009).

Conservation Status

L. douglasiellus is listed as **critically endangered**. This species is eligible for listing as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act) as the species is only known from three locations and has a very restricted geographic distribution which is precarious for the species' survival due to a range of threats operating within the species' known habitat (TSSC, 2011).

The species is also listed as Schedule 1 (fauna that is rare or likely to become extinct) under the Western Australian *Wildlife Conservation Act 1950* and managed as endangered by the Western Australian Government (DEC, 2009).

Distribution and Habitat

L. douglasiellus is now thought to occur in three locations within the Perth metropolitan area ranging from Cannington to Forrestdale, as reported in the 2006-2008 Rare Native Bee Survey results conducted by the Western Australian Department of Environment and Conservation (DEC) (Swan Region) (DEC, 2009).

The current extent of occurrence is 24.3 km², the area of occupancy is 0.2 km², and there has been an inferred decline of suitable habitat since surveys undertaken in 1954 due to a large portion of the Swan Coastal Plain being significantly altered, especially around the Perth metropolitan area where the only known populations of the species occur (DEC, 2009).

Specimens of *L. douglasiellus* have been collected on two plant species, both of which are on the DEC Priority Flora list: *Goodenia filiformis* (Priority 3) and *Anthotium junciforme* (Priority 4) (DEC, 2009).

Threats

In the past, land clearance in the areas where the species is thought to have occurred is likely to have destroyed suitable habitat. Current disturbance, such as mowing, may be degrading areas of suitable habitat (DEC, 2009).

Inappropriate fire regimes are a threat to the species as they can change or disturb its habitat, resulting in the replacement of native vegetation with weeds (CALM, 2005).

Competition with introduced honeybees is a potential threat to this species (Houston, 2000).

Research Priorities

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

- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.
- More precisely assess population size, distribution, ecological requirements (including food plants) and the relative impacts of threatening processes.

Priority Actions

The following priority recovery and threat abatement actions can be done to support the recovery of *L. douglasiellus*.

- Protect areas of native vegetation which contain populations of the species or which could support populations in the future.
- Develop and implement a suitable fire management strategy for the habitat of *L. douglasiellus*.
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate and/or secure inclusion in reserve tenure if possible.
- Investigate options for linking, enhancing or establishing additional populations.
- Monitor known populations to identify key threats.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences at the time of food plant flowering.
- Minimise adverse impacts from land use at known sites.
- Manage sites to prevent introduction of invasive weeds that could become a threat to *L. douglasiellus*, using appropriate methods.
- Implement an appropriate fire management regime for the habitat of local populations.

This list does not necessarily encompass all actions that may be of benefit to *L. douglasiellus*, 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

Forrestdale Lake Nature Reserve Management Plan 2005 (Conservation Commission of Western Australia and Department of Conservation and Land Management 2005).

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

Information Sources:

Department of Conservation and Land Management (CALM) (2005). Forrestdale Lake Nature Reserve management plan 2005. Conservation Commission of Western Australia and Department of Conservation and Land Management, Perth.

Department of Environment and Conservation (DEC) (2009). Threatened and Priority Fauna Database and fauna species files. WA Department of Environment and Conservation, Kensington, Perth. [accessed 11 December 2009].

Houston, TF (2000). Native bees on wildflowers in Western Australia. Special Publication No. 2 of the Western Australian Insect Study Society Inc. WA Museum, Perth.

Threatened Species Scientific Committee (TSSC) (2011). *Leioproctus douglasiellus* listing advice.