

**Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee (TSSC) on Amendments to the list of Threatened Species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)**

**1. Scientific name (common name)**

*Ptilotus fasciculatus* (Fitzgerald's Mulla-mulla)

**2. Description**

The Fitzgerald's Mulla-mulla is a perennial herb that has short leafy branches and upright, simple flowering stems. It has spherical flower spikes on white, woolly stems that are up to 13cm tall. Flowering has been recorded from September to November, with peak flowering occurring in November.

**3. National Context**

The Fitzgerald's Mulla-mulla is endemic to Western Australia. It is currently known from eleven populations located in a linear range parallel to the coast, in areas surrounding Kondinin, Carnamah and Coorow in the midwest and wheatbelt regions of South-western Australia (CALM, 2005). The southern most tip of the Fitzgerald's Mulla-mulla distribution is 180km east of Perth.

The species is currently listed as rare under the Western Australian *Wildlife Conservation Act 1950* and is managed as 'endangered' (according to IUCN criteria) by the Western Australian Government. The Fitzgerald's Mulla-mulla was thought to be extinct until collections made in 1987 that were misidentified as *Ptilotus caespitosus* were correctly identified as *Ptilotus fasciculatus* in 2000.

**4. How judged by TSSC in relation to the EPBC Act criteria.**

TSSC judges the species to be **eligible** for listing as **endangered** under the EPBC Act. The justification against the criteria is as follows:

**Criterion 1 – It has undergone, is suspected to have undergone or is likely to undergo in the immediate future a very severe, severe or substantial reduction in numbers.**

The Fitzgerald's Mulla-mulla is known from eleven populations in Western Australia. The total population size is estimated to be approximately 3,300 mature plants (CALM, 2005). Annual surveys have been undertaken on known populations and surrounding areas during 2001 to 2003. In 2002 a new population was discovered in Yenyening Lakes Nature Reserve, and during 2003, four new populations were located, two of which are in nature reserves. Further surveys are planned, particularly in areas surrounding the most recently discovered population in Seagroatt Nature Reserve (CALM, 2005).

Due to a lack of historical survey information, there are no quantitative data available to indicate past trends in the population size of the species, or possible future decline.

Therefore, there are no quantitative data available to assess the species against this criterion.

**Criterion 2 –Its geographic distribution is precarious for the survival of the species and is very restricted, restricted or limited.**

The geographic distribution of the Fitzgerald's Mulla-mulla is severely fragmented, with eleven populations spread over a linear area ranging from north of Geraldton to 180km east of Perth. The fragmentation suggests that some of the former range of the Fitzgerald's Mulla-mulla was cleared for agriculture. The distance between the eleven populations means that the extent of occurrence of the Fitzgerald's Mulla-mulla is approximately 22,300km<sup>2</sup>, however, the total area of occupancy is estimated to be approximately 1.4km<sup>2</sup> (CALM, 2005).

Four populations occur within nature reserves, with the remaining seven populations occurring on private property and road verges. In the past, land clearing and grazing potentially impacted on the Fitzgerald's Mulla-mulla, and salinity appears to have been evident at several of the populations for some time.

The major current and potential future threat to this species is salinity and waterlogging (CALM, 2005). Large-scale native vegetation clearance in areas where Fitzgerald's Mulla-mulla occurs has caused groundwater tables to rise, mobilising the salt that occurs naturally in the subsoils and bringing dissolved accumulated salt to the surface. The rising groundwater tables further impact the species through waterlogging (ie excess water) of the root zone.

While most of the eleven populations occur adjacent to areas that would be naturally saline, increasing salinity is a threat to six of the eleven populations (CALM, 2005). Given the trends in increasing levels of salinity, waterlogging and soil acidity across the agricultural areas of Western Australia as a whole, it is likely that these populations will experience significant increases in levels of salinity and waterlogging in the near future.

Grazing by rabbits and kangaroos is also evident at three of the eleven populations and could continue to be a threat to these populations, despite plants at all three of these populations being reported to be in healthy condition when last surveyed (CALM, 2005).

Although the extent of occurrence of the Fitzgerald's Mulla-mulla appears quite large, its restricted area of occupancy, combined with the current and potential threats to these populations posed by salinity and grazing by rabbits and kangaroos makes the geographical distribution of the species precarious for its survival.

Therefore the species is **eligible** for listing as **endangered** under this criterion.

**Criterion 3 – The estimated total number of mature individuals is limited to a particular degree and: (a) evidence suggests that the number will continue to decline at a particular rate; or (b) the number is likely to continue to decline and its geographic distribution is precarious for its survival.**

The total number of individuals is limited, with approximately 3,300 plants. However, due to a lack of historical survey information, there are no quantitative data available to indicate past trends in the population size of this species, nor any current evidence to suggest that the Fitzgerald's Mulla-mulla will continue to decline at a particular rate.

Therefore, there are no quantitative data available to assess the species against this criterion.

**Criterion 4 – The estimated total number of mature individuals is extremely low, very low or low.**

The total number of individuals of this species is not considered low, as its total population size is approximately 3,300 mature individuals.

Therefore, the species is **not eligible** for listing under this criterion.

**Criterion 5 - Probability of extinction in the wild**

There are no quantitative data available to assess the species against this criterion.

**5. CONCLUSION**

The Fitzgerald's Mulla-mulla was thought to be extinct until collections made in 1987 that had been misidentified as *Ptilotus caespitosus* were correctly identified as *Ptilotus fasciculatus* in 2000. The Fitzgerald's Mulla-mulla is endemic to Western Australia and known from eleven populations spread in a linear range parallel to the coast, in the midwest and wheatbelt regions of South-western Australia. It has a very restricted area of occupancy of approximately 1.4km<sup>2</sup>, with a number of threats operating across several populations.

The species is **eligible** for listing as **endangered** under criterion 2.

**6. Recommendation**

TSSC recommends that the list referred to in section 178 of the EPBC Act be amended by **transferring** from the **extinct** category to the **endangered** category:

*Ptilotus fasciculatus* (Fitzgerald's Mulla-mulla)

**Publications used to assess the nomination**

CALM (2005) Records held in CALM's Declared Flora Database and rare flora files. WA Department of Conservation and Land Management.