

Approved Conservation Advice
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

Approved Conservation Advice for
***Eremophila* sp. *Subteretifolia* (K.R.Newby 10924) (Lake King *Eremophila*)**

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

Eremophila sp. *Subteretifolia* (K.R.Newby 10924), Family Myoporaceae, also known as Lake King *Eremophila*, is a ground hugging, mat-like plant up to 10 cm high and 1.5 m in diameter. The erect, orange flowers emerge above glossy, green leaves. The low-growing habit and orange flowers of this species are distinctive. Lake King *Eremophila* flowers between July to March, and possibly throughout the year (Brown et al., 1998). This species has recently been formally described as *Eremophila subteretifolia* (Chinnock, 2007).

Conservation Status

Lake King *Eremophila* is listed as **endangered**. This species is eligible for listing as endangered 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 endangered under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). The species is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia) under the name *Eremophila subteretifolia*.

Distribution and Habitat

Lake King *Eremophila* is endemic to Western Australia where it is known from eight populations within the Lake King and Ravensthorpe areas. The area of occupancy, for two of the eight populations, is approximately 200 m² (DEC, 2008). There are insufficient data available to determine any trends in area as not all populations have a recorded area of occupancy. The extent of occurrence is approximately 530 km². Four populations each have over 30 plants whilst the other four populations each have less than 10. Seven of the eight populations occur on nature reserves with the remaining population located on private property. Two populations are in poor condition while the other populations are healthy (DEC, 2008). This species occurs within the Avon and South Coast (Western Australia) Natural Resource Management Regions.

Lake King *Eremophila* grows under a range of eucalypt species around salt lake margins in light, slightly saline, sandy loam over clay (Brown et al., 1998). It grows among open scrub and low sedge on the edges of samphire flats and salt lakes and generally occurs in open woodland areas of *Eucalyptus kondininensis* and *E. decipiens* (Phillimore et al., 2002).

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

Threats

The main identified threats to Lake King *Eremophila* are poor recruitment associated with lack of appropriate disturbance, such as fire (Phillimore et al., 2002).

The main potential threats to Lake King *Eremophila* include salinity and prolonged waterlogging; recreational activities; road and track maintenance; vehicle damage; rabbits (*Oryctolagus cuniculus*); gypsum mining; and inappropriate fire regimes. Too frequent fire would deplete this species' soil seed bank (Phillimore et al., 2002).

Populations occur adjacent to winter-wet semi saline and saline flats in areas that are showing signs of increasing salinity. A rapid increase in the water depth at one site, in the past, resulted in the death of surrounding remnant fringe vegetation, including several Lake King *Eremophila* plants (Phillimore et al., 2002).

Bollards and markers have been placed at one site to prevent damage; however, such barriers could be expanded to protect further sites from vehicle and recreational damage (Phillimore et al., 2002). Road and track maintenance threaten some populations but relevant land managers have been informed of the location and threatened status of the species (Phillimore et al., 2002).

Research Priorities

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

- Investigate the species' response to disturbance (Brown et al., 1998).
- Support and enhance existing monitoring programs.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- More precisely assess population size, distribution, fire ecology, ecological requirements, and the relative impacts of threatening processes.

Regional and Local Priority Actions

The following priority recovery and threat abatement actions can be done to support the recovery of Lake King *Eremophila*.

Habitat Loss, Disturbance and Modification

- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Ensure road widening and maintenance activities and other infrastructure or development activities involving substrate or vegetation disturbance do not adversely impact on known populations of Lake King *Eremophila*.
- Ensure changes to land use, especially increased gypsum mining, do not adversely affect this species.
- Manage any changes to hydrology that may result in changes to water table levels and/or increased run-off, waterlogging and salinity.
- Manage any disruptions to water flows.

Trampling, Browsing or Grazing

- Prevent grazing pressure at known sites through exclusion fencing or other barriers.
- Implement the Threat Abatement Plan for the management of rabbits in the area (EA, 1999).

Fire

- Develop and implement a suitable fire management strategy for Lake King *Eremophila*.
- 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.

Conservation Information

- Raise awareness of Lake King *Eremophila* within the local community by producing and distributing information brochures to the local community and community interest groups.
- Maintain bollards and markers

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Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage.
- Investigate options for linking, enhancing or establishing additional populations.
- Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.

This list does not necessarily encompass all actions that may be of benefit to Lake King Eremophila, 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 Competition and Land Degradation by Feral Rabbits (EA, 1999), and
- Lake King Eremophila (*Eremophila subteretifolia* ms) Interim Recovery Plan No. 112, 2002–2005 (Phillimore et al., 2002).

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

Information Sources:

Brown, A, Thomson-Dans, C & Marchant, N (eds) 1998, *Western Australia's Threatened Flora*, Department of Conservation and Land Management, Western Australia.

Chinnock, RJ 2007, *Eremophila and allied genera: a monograph of the plant family Myoporaceae*, Botanic Gardens of Adelaide and State Herbarium, Rosenberg Publishing.

Department of Environment and Conservation (DEC) 2008, *Records held in DEC's Declared Flora Database and rare flora files*, WA Department of Environment and Conservation.

Environment Australia (EA) 1999, *Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits*, Biodiversity Group, viewed 30 May 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/rabbits/index.html>>.

Phillimore, R, Stack G & Brown, A, 2002, *Lake King Eremophila (Eremophila subteretifolia ms) Interim Recovery Plan No. 112, 2002-2005*, Department of Conservation and Land Management, Western Australia.

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2nd ed.), Australian Network for Plant Conservation, Canberra.