

THREATENED SPECIES SCIENTIFIC COMMITTEE

Established under the *Environment Protection and Biodiversity Conservation Act 1999*

The Minister approved this conservation advice and included this species in the Endangered category, effective from 11/05/2018.

Conservation Advice

Eremophila ciliata

Summary of assessment

Conservation status

Eremophila ciliata has been found to be eligible for listing in the Endangered category, as outlined in the attached assessment.

Reason for conservation assessment by the Threatened Species Scientific Committee

This advice follows assessment of information provided by Western Australia as part of the Common Assessment Method process, to systematically review species that are inconsistently listed under the EPBC Act and relevant state/territory legislation or lists.

More information on the Common Assessment Method is available at:

<http://www.environment.gov.au/biodiversity/threatened/cam>

The information in this assessment has been compiled by the relevant state/territory government. In adopting this assessment under the EPBC Act, this document forms the Approved Conservation Advice for this species as required under s266B of the EPBC Act.

Public consultation

Notice of the proposed amendment and a consultation document was made available for public comment for 33 business days between 3 October 2017 and 16 November 2017. Any comments received that were relevant to the survival of the species were considered by the Committee as part of the assessment process.

Recovery plan

A recovery plan for this species under the EPBC Act is not recommended, because the Approved Conservation Advice provides sufficient direction to implement priority actions and mitigate against key threats. The relevant state/territory may decide to develop a plan under its equivalent legislation.

Recommendations

- (i) The Committee recommends that the list referred to in section 178 of the EPBC Act be amended by **including** in the list in the Endangered category:

Eremophila ciliata

- (ii) The Committee recommends that there not be a recovery plan for this species.

Threatened Species Scientific Committee

28 February 2018

Nomination/Proposal summary *(to be completed by nominator)*

Current conservation status				
Scientific name:	<i>Eremophila ciliata</i> Chinnock			
Common name:	N/A			
Family name:	Scrophulariaceae	Fauna <input type="checkbox"/>	Flora <input checked="" type="checkbox"/>	
Nomination for:	Listing <input checked="" type="checkbox"/>	Change of status/criteria <input type="checkbox"/>	Delisting <input type="checkbox"/>	
1. Is the species currently on any conservation list, either in a State or Territory, Australia or Internationally? 2. Is it present in an Australian jurisdiction, but not listed?		Provide details of the occurrence and listing status for each jurisdiction in the following table		
Jurisdiction	State / Territory in which the species occurs	Date listed or assessed (or N/A)	Listing category i.e. critically endangered or 'none'	Listing criteria i.e. B1ab(iii)+2ab(iii)
International (IUCN Red List)				
National (EPBC Act)				
State / Territory	1. WA	2006	Critically Endangered	B1ab(ii,v)+B2ab(ii,v); C2a(i,ii)
		5/4/2017	Endangered	D
	2.			
Consistent with Schedule 1, item 2.7 (h) and 2.8 of the Common Assessment Method Memorandum of Understanding, it is confirmed that:				
<ul style="list-style-type: none"> this assessment meets the standard of evidence required by the Common Assessment Method to document the eligibility of the species under the IUCN criteria; 			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comments:				
<ul style="list-style-type: none"> surveys of the species were adequate to inform the assessment; 			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comments:	<p>The first recorded subpopulation of <i>Eremophila ciliata</i>, consisting of approximately 50 plants, was discovered approximately 70 km NNW of Mount Ragged in September 1990. Since then, numerous surveys of all nearby granite outcrops by Parks and Wildlife staff and volunteers have been made with no further subpopulations being found. When first discovered the subpopulation was senescing with little or no recruitment. A bushfire in January 2008 burnt a large proportion of the subpopulation with just 5 plants found in an unburnt pocket in September 2008. Monitoring in September 2010 observed 88 plants having germination from soil stored seed. In October 2013, 92 mature plants were recorded. Plants unaffected by the fire were continuing to senesce and decline.</p>			
<ul style="list-style-type: none"> the conclusion of the assessment remains current and that any further information that may have become available since the assessment was completed supports or is consistent with the conclusion of the assessment. 			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comments:	<p>There is no current net continuing decline observed, but the species will be susceptible to impacts from fire if the frequency of fires increases. There is a potential threat to the subpopulation from</p>			

mineral exploration activities. Assessed as low plant number until potential threats are realised.	
Nominated national conservation status: category and criteria	
Presumed extinct (EX) <input type="checkbox"/> Critically endangered (CR) <input type="checkbox"/> Endangered (EN) <input checked="" type="checkbox"/> Vulnerable (VU) <input type="checkbox"/>	
None (least concern) <input type="checkbox"/> Data Deficient <input type="checkbox"/> Conservation Dependent <input type="checkbox"/>	
What are the IUCN Red List criteria that support the recommended conservation status category?	Endangered: D
Eligibility against the IUCN Red List criteria (A, B, C, D and E)	
<i>Provide justification for the nominated conservation status; is the species eligible or ineligible for listing against the five criteria. For delisting, provide details for why the species no longer meets the requirements of the current conservation status.</i>	
A.	Population size reduction (evidence of decline)
	<ul style="list-style-type: none"> • A decline in the population was evident up until 2008 when a fire impacted the population. Post fire germination resulted in 88 mature individuals regenerating in 2010, with a total of 92 mature individuals in October 2013. • No population size reduction recorded. • Does not meet criteria.
B.	Geographic range (EOO and AOO, number of locations and evidence of decline)
	<ul style="list-style-type: none"> • EOO and AOO 4 km². • Occurs over an area of 0.25 ha at 1 location. • The 5 mature individuals that survived a fire in 2008 are senescing, however, the fire resulted in replacement of the population. • Plants that germinated post fire will begin to senesce and decline unless another disturbance event occurs. This is the natural life cycle of the species. • There is no observed decline in the condition of the habitat. • Does not meet criteria.
C.	Small population size and decline (population size, distribution and evidence of decline)
	<ul style="list-style-type: none"> • Currently known from 92 mature individuals. • Further monitoring is required to assess the health of these plants. They were last observed in 2013 after germinating in 2009/2010 post fire. • No evidence of continuing decline in the population. • Does not meet criteria.
D.	Very small or restricted population (population size)
	<ul style="list-style-type: none"> • Currently known from 92 mature individuals. • Meets criterion D for Endangered as less than 250 mature individuals known.
E.	Quantitative analysis (statistical probability of extinction)
	<ul style="list-style-type: none"> • No information to assess.
Summary of assessment information	

EOO	Calculated to 4km ² based on AOO. Actual extent 0.25 ha using a minimum convex polygon.	AOO	4km ² (2x2km grid method) Area subpopulation 0.25 ha	Generation length	Unknown
No. locations	1	Severely fragmented	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		
No. subpopulations	1	No. mature individuals	92		
Percentage global population within Australia		100			
Percentage population decline over 10 years or 3 generations		-			
Threats (detail how the species is being impacted)					
Threat <i>(describe the threat and how it impacts on the species. Specify if the threat is past, current or potential)</i>		Extent <i>(give details of impact on whole species or specific subpopulations)</i>		Impact <i>(what is the level of threat to the conservation of the species)</i>	
Small subpopulation size. Small subpopulation size increases the likelihood of the species being adversely impacted by a single event. Small subpopulations are also at a greater risk of loss of genetic diversity and inbreeding depression. Past, current and future.		Whole species		High	
Poor recruitment. Species appears dependent on disturbance events for recruitment, otherwise plants will senesce and decline. Current and future.		Whole species		High	
Altered fire regimes. A fire in 2008 killed all but 5 mature individuals. Soil stored seed germination was observed in 2009/2010. The population may be vulnerable to altered fire regimes if another fire event occurs before the current generation of plants has set a sufficient seed bank. Past, current and potentially future.		Whole species		High	
Mineral exploration The subpopulation is located adjacent to an area where a program of exploration work is pending. Any clearing in association with mineral exploration may directly or indirectly affect the subpopulation. Potentially future.		Whole species		Medium	
Weed invasion A few weeds have been observed in the vicinity of		Whole species		Low	

the population. Although not a current threat, may potentially be a future threat. Potentially future.		
Rabbit grazing and warren construction Rabbit activity has been observed near the population. Although not currently directly impacting the population further warren construction may potentially be a future threat. No grazing by rabbits has been observed but future grazing has the potential to impact on seedlings. Potentially future.	Whole species	Low
Management and Recovery		
Is there a Recovery Plan (RP) or Conservation Management Plan operational for the species?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p><i>List all relevant recovery or management plans (including draft, in-preparation, out-of-date, national and State/Territory recovery plans, recovery plans for other species or ecological communities, or other management plans that may benefit or be relevant to the nominated species).</i></p> <ul style="list-style-type: none"> Included in Interim Recovery Plan No. 297 <i>Eremophila ciliata</i> Interim Recovery Plan 2010-2014. 		
<p><i>List current management or research actions, if any, that are being undertaken that benefit the conservation of the species.</i></p> <ul style="list-style-type: none"> Monitoring and surveys have been carried out to determine plant numbers and impact of threats. The holders of mineral exploration licences over adjacent land have been made aware of the threatened nature of <i>Eremophila ciliata</i>, its location and their legal obligations to protect it. Seed was collected from approximately 50 mature individuals in February 2005. 		
<p><i>List further recommended management or research actions, if any, that would benefit the conservation of the species. Please ensure that this section addresses all identified threats.</i></p> <ul style="list-style-type: none"> Develop and implement a translocation proposal if the subpopulation shows evidence of decline. Continue undertaking surveys for new subpopulations. Develop and implement a fire management strategy. Map habitat critical to the survival of the species to facilitate its protection and appropriate management. Promote awareness of the species with general public. Liaise with land managers and Aboriginal communities to ensure that the known subpopulation of <i>Eremophila ciliata</i> is not accidentally damaged or destroyed and its habitat is maintained in suitable condition for the conservation of the species. Aboriginal consultation will take place to determine if there are any issues or interests in areas that are habitat for the species. Monitor the location for indication of encroachment of weeds or rabbit activity, and implement appropriate management measures if they pose a threat. 		
Nomination prepared by:		
Contact details:		
Date submitted:	10/10/2016	

If the nomination has been refereed or reviewed by experts, please provide their names and contact details:

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Summary of subpopulation information (detailed information to be provided in the relevant sections of the form)						
Location (include coordinates)	Land tenure	Survey information: Date of survey and No. mature individuals	Area of subpopulat ions	Site / habitat Condition	Threats (note if past, present or future)	Specific management actions
70 km NNW of Mount Ragged	Unallocated Crown Land	1990 50 2003 25 2005 50 2008 5 2010 93 2013 92	0.25 ha	Mostly good, part degraded following fire	Small subpopulation size (future) Poor natural recruitment (present, future) Altered fire regimes (past, future) Mineral exploration (future)	Develop and implement a translocation proposal if the subpopulation declines. Continue undertaking surveys for new subpopulations. Develop and implement a fire management strategy. Map habitat critical to the survival of the species to facilitate its protection and appropriate management. Promote awareness of the species with general public. Liaise with land managers and Aboriginal communities to ensure that the known subpopulation of <i>Eremophila ciliata</i> is not accidentally damaged or destroyed and its habitat is maintained in suitable condition for the conservation of the species. Aboriginal consultation will take place to determine if there are any issues or interests in areas that are habitat for the species. Monitor weeds and take action if they become a threat. Monitor rabbits and assess future threat.

**FLORA NOMINATION FORM
TO BE CONSIDERED AT THE 2005 TSSC MEETING
UPDATED 2016**

Proposed addition, deletion or other change to the schedule of Declared Rare Flora pursuant to the *Wildlife Conservation Act 1950* and/or amendments to CALM's Priority Flora List.

See CALM Policy Statement No. 9 for criteria and definitions. Please complete all sections. Attach additional information, if space is insufficient.

1. TAXON (name): *Eremophila ciliata*

Author Chinnock

Hybrid

Refer to special guidelines

Description

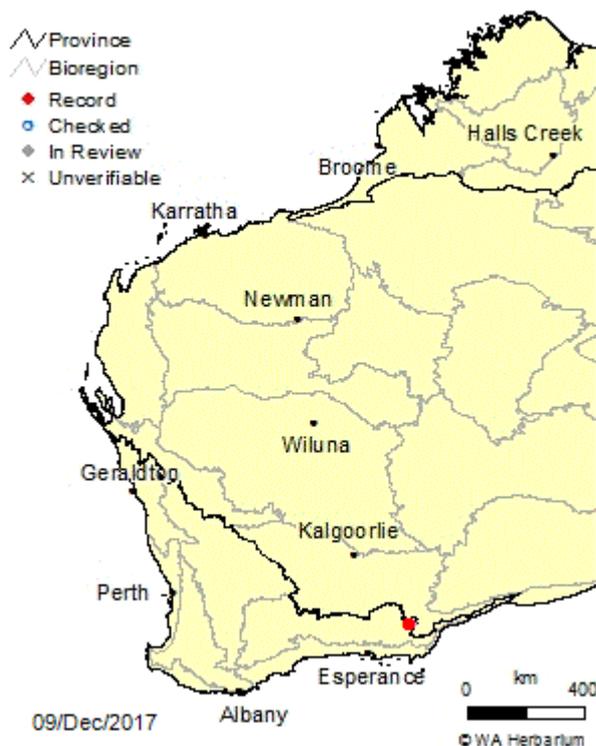
Eremophila ciliata is an erect shrub 1-4 metres tall, with erect or spreading branches with furrows extending down from leaf bases and prominently tuberculate with large amber-coloured tubercles. The leaves are sessile, alternate, thick, linear-oblongate, 5-12 x 1.2-2.5 mm and glabrous. There are one to three flowers per axil and are 1.5-3 mm long. Five sepals valvate, have outer and inner surface glabrous but margins are prominently ciliate. Fruit is ovoid in side view, prominently winged and the wings have numerous tubercles. The specific name is derived from the Latin cilium (eye-lash) refers to its calyx lobes which are fringed with fine hairs (Chinnock 2007).

The species is closely related to *E. dichroantha* and *E. dempsteri* but can be distinguished from the former by the branch features, flattened leaves with two rows of tubercles on the abaxial surface, fewer flowers per axil and prominently winged, glabrous fruit. From the latter it can be distinguished by the flattened leaves, smaller sepals lacking prominent venation at the fruiting stage, and shorter ciliate softer hairs and smaller flowers (Chinnock 2007).

Distribution

The species is known from a small geographic area approximately 70 km north north-west of Mount Ragged (see map below from Western Australian Herbarium (1998-)). It grows on well-drained red, sandy loam at the base of a large granite outcrop among *Acacia*, *Melaleuca* and *Eucalyptus* species (Chinnock 2007).

Eremophila ciliata



Biology and ecology

There is little known about the biology and ecology of the species, and recovery actions refer to a need for research.

Eremophila ciliata appears to be killed by fire but regenerates from soil-stored seed.

Chinnock, R.J. (2007). *Eremophila* and allied genera: a monograph of the Myoporaceae. The Botanic Gardens and State Herbarium, Department of the Environment and Heritage, Government of South Australia. Pp 210-211.

Western Australian Herbarium (1998–) *FloraBase—the Western Australian Flora*. Department of Environment and Conservation. <http://florabase.dpaw.wa.gov.au>.

2. CURRENT LIST/SCHEDULE: Declared Rare: Threatened (extant) or Presumed Extinct
Priority [] None

3. PROPOSED LIST/SCHEDULE: Threatened Presumed Extinct
Priority [] None

4. PROPOSED IUCN THREAT CATEGORY (see page 4): Extinct (EX) Extinct in the Wild (EW)
Critically Endangered (CR) Endangered (EN) Vulnerable (VU) Lower Risk (LR)
Meets World Conservation Union (IUCN, 2000) Red List Category 'EN' under D

5. SUMMARY REASON FOR CHANGE:

Addition: Believed to be rare, but needs further survey Confirmed to be rare
Populations not adequately reserved Subject to threatening processes
Deletion: More common than previously thought Populations adequately reserved
Taxonomic uncertainty Does not comply with guidelines for hybrids
Change: Name Change Now presumed extinct Presumed extinct to extant Date found / /
Other (reason)

6. TAXONOMIC HISTORY/AFFINITY:

A bushy open shrub to 2 m high by 3 m wide with prominently glandular stems, short, narrow, glandular leaves 5 to 15 mm long by 2 mm wide and small blue/mauve flowers. It is a distinctive species that will be described by Bob Chinnock in a forthcoming paper from specimens collected at the single known population site. Its specific name, derived from the Latin *cilium* (eye-lash), refers to its calyx lobes which are fringed with fine hairs. Although closely related to *Eremophila dichroantha* it is readily distinguished by its prominently glandular stems and leaves, hairier calyx lobes and open, spreading habit.

South Australian taxonomist Bob Chinnock formally described the species in 2007.

Location and collection number of voucher specimen: WA Herbarium - R. Davis 10585

7. RECENT SURVEY EFFORT (refer to the CALM guidelines for survey requirements):

A single population of 50 plants was discovered by William and Barbara Archer in September 1990.

In the 26 years since the type collection was made, all nearby granite outcrops have been surveyed by a number of experienced persons and community volunteers, with no other populations found.

In January 2008 a bushfire swept through the area. The fire was patchy, burning intensely in some areas of the granite outcrop and lightly in others. The area where the population was known to occur was moderately burnt with some patches remaining as unburnt pockets.

The population was surveyed in September 2008 by Andrew Brown and Emma Massenbauer with a small population of 5 plants located at the type location. No other plants/populations were seen in that area. The plants were found in an unburnt pocket and appeared to be in a state of decline (senescence). Post fire recovery plots were installed at the population in September 2009 by E. Massenbauer and S. Butler. Monitoring in 2010 recorded an additional 88 plants that had germinated from seed post fire.

The population was monitored in October 2013 by Julie Waters and Wayne Gill with 92 mature plants recorded.

8. RESEARCH KNOWLEDGE/NEEDS:

Knowledge of pollination biology, seed set and distribution is required.

Eremophila ciliata is a seeder. The population was burnt in January 2008 with 88 plants observed recruiting from seed. The area where germination occurred was exposed to a moderate intensity fire.

9. MANAGEMENT NEEDS & IMPLICATIONS (including susceptibility to disease, and presence of other threats):

Known from a single population of 92 mature plants on the edge of a large granite complex.

All plants are mature with some evidence of senescence (some dead branches, woody appearance) in areas unaffected by the 2008 fire.

Weeds are a minor threat to mature plants but may affect recruitment in some situations.

Grazing by rabbits may be a threat to young plants.

Rabbit warren construction is likely to threaten the establishment of new plants.

10. DISTRIBUTION BY CALM REGION:

Kimberley

Pilbara

Midwest

Goldfields

Wheatbelt

Swan

Central Forest

Southern Forest

South Coast

11. KNOWN POPULATIONS AND RANGE (attach WAHERB and/or population database printout):

CALM Region	Date of most Recent Survey	Location	Land Status	Population size/area	Condition of Population
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A. Conservation Reserves (National Parks, Nature Reserves, Marine Parks, State Forests)

B. Other Crown Lands

S.Coast	October 2013	NNW Mt Ragged	UCL	92	Healthy
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C. Private/Leasehold Lands

D. Unconfirmed Locations

12. TRENDS IN POPULATION SIZE & RANGE:

A. Previous

Originally known from a single population of 50 plants; now a single population of 92 plants over an area 0.25 ha on a large granite outcrop.

B. Current

Recruitment has been noted after the 2008 bushfire, with plants germinating from soil stored seed. In 2013, 92 mature plants were observed. The plants remaining in areas unaffected by the fire are showing signs of senescence.

13. SUMMARY STATUS ASSESSMENT:

A restricted species known from a single population of 92 plants.

Extensive surveys over several years have failed to locate further populations.

Threats include senescence and reliance on regeneration, small population size, mineral exploration in surrounding areas.

The species currently meets IUCN Red List Category 'Endangered' under criterion D

14. PROPOSED BY:

DATE: 26/07/2004

Update 17/10/2016