Threatened species nomination

For nominations/assessments under the Common Assessment Method (CAM).

Cover Page *(Office use only)*

Species name (scientific and common name)**:**	***Eremophila glabra* subsp. Scaddan (C. Turley s.n. 10/11/2005)**
Nomination for (addition, deletion, change)**:**	**Addition**
Nominated conservation category and criteria:	**Critically Endangered C2a(i); D**

TSSC assessment of eligibility against the criteria:			
This assessment is consistent with the standards set out in Schedule 1, item 2.7 (h) and 2.8 of the Common Assessment Method Memorandum of Understanding.			Yes ☐ No ☐
A.	Population size reduction	•	
B.	Geographic range	•	
C.	Small population size and decline	•	
D.	Very small or restricted population	•	
E.	Quantitative analysis	•	

Outcome*:*			
TSSC Meeting date:			
TSSC comments:			
Recommendation:			
Ministerial approval:		*Government Gazette/ Legislative effect:*	

Nomination summary *(to be completed by nominator)*

Current conservation status				
Scientific name:	*Eremophila glabra* subsp. Scaddan (C. Turley s.n. 10/11/2005)			
Common name:				
Family name:	Scrophulariaceae	Fauna ☐	Flora ☒	
Nomination for:	Listing ☒	Change of status ☐	Delisting ☐	
Is the species currently on any conservation list, either in WA, Australia or Internationally?		Yes ☒ *If Yes; complete the following table*	No ☐ *If No; go to the next question*	

Jurisdiction	**List or Act name**	**Date listed or assessed**	**Listing category i.e. critically endangered**	**Listing criteria i.e. B1ab(iii)+2ab(iii)**
International	IUCN Red List			
National	EPBC Act			
State of WA	WC Act	Assessed 5/4/2017	Critically Endangered	C2a(i); D
	DPaW Priority list	1☒ 2☐ 3☐ 4☐ 5☐		
Other States or Territories				

Consistent with Schedule 1, item 2.7 (h) and 2.8 of the Common Assessment Method Memorandum of Understanding, it is confirmed that:	
• 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 ☒ No ☐
Comments:	
• surveys of the species were adequate to inform the assessment;	Yes ☒ No ☐
Comments:	Refer to nomination
• 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 ☒ No ☐
Comments:	

Nominated conservation status: category and criteria (including recommended categories for deleted species)			
Presumed extinct (EX) ☐	Critically endangered (CR) ☒	Endangered (EN) ☐	Vulnerable (VU) ☐
None (least concern) ☐	Data Deficient ☐	Conservation Dependent ☐	
What criteria support the conservation status category above?	**C2a(i); D**		

Eligibility against the criteria		
*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.*		
A.	Population size reduction	• It is not possible to calculate population size reduction for this subspecies due to insufficient historical data available. Other than an increase in the total number of individuals due to the discovery of two new populations, the general trend for this subspecies is decreasing; with one of the original populations now containing no live plants. **Insufficient data to determine percentage decline.**
B.	Geographic range	• AOO is calculated at 16 km^2 using the 2 km x 2 km grid method. This is < 500 km^2 for the purposes of the criteria. • EOO is calculated at 82 km^2. This is < 100 km^2 for the purposes of the criteria. • Area of subpopulations is 56 m^2. This area includes only extant Subpopulations 1, 2, 4 and 5. • Number of locations = 3. These locations occur in habitat which is not contiguous and the surrounding landscape has been largely cleared for agriculture. These locations are also exposed to different threatening processes, with the exception of Subpopulations 1, 2 and 3 which are all threatened by road maintenance, but Subpopulations 2 and 3 are considerable distance from Subpopulation 1. • Continuing observed decline in: (iii) area or quality of habitat. The habitat is highly threatened by increasing salinity, too frequent fire and road maintenance. (v) number of mature individuals. Although there has been an increase in the total number of individuals due to the location of two new populations, the general trend for this subspecies is decreasing; with Subpopulation 3 now containing no live plants. **Meets criteria for Endangered B1ab(iii,v)+2ab(iii,v)**
C.	Small population size and decline	• There are currently (2016) a total of 14 mature individuals. • There is an observed continuing decline in the number of mature individuals. • The largest subpopulation contains just 9 mature individuals. • 64 % of mature individuals are known from one subpopulation. **Meets criteria for Critically Endangered C2a(i)**
D.	Very small or restricted population	• The subspecies currently consists of 14 mature individuals. **Meets criteria for Critically Endangered D**
E.	Quantitative analysis	• No quantitative analysis available for this subspecies. **Insufficient data to perform quantitative analysis.**
Summary of assessment information *(detailed information to be provided in the relevant sections of the form)*		

EOO	82 km^2 using a minimum convex polygon (MCP)	AOO	16 km^2 using the 2 km x 2 km grid method. Area of subpopulations 56 m^2	Generation length	Unknown

No. locations	3	Severely fragmented	Yes ☐ No ☒
No. subpopulations	5	No. mature individuals	14

Percentage global population within WA	100 %
Percentage global population within Australia	100 %
Percentage population decline over 10 years or 3 generations	Unknown

Summary of subpopulation information *(detailed information to be provided in the relevant sections of the form)*						
Subpopulations	Land tenure	Survey information: Date of survey and No. mature individuals	Area of subpopulations	Site / habitat Condition	Threats *(note if past, present or future)*	Specific management actions
Subpopulation 1 Road reserve, south east of Scaddan.	Shire Road Reserve	30/03/2016 – 9 mature individuals 10/11/2005 – occasional frequency of plants – no count information 26/05/2006 – Occasional frequency of plants – no count information	36 m^2	Moderate	Road maintenance Senescence Salinity Poor recruitment Grazing	Monitor and manage disturbance activities Develop a fire management plan Liaise with land managers Collect seed for storage and use in research and translocation Establish new populations in secure areas
Subpopulation 2 Road reserve, ESE of Scaddan.	Shire Road Reserve	30/03/2016 – 1 mature individual 25/06/2006 – 1 mature individual	4 m^2	Good	Road maintenance Senescence Salinity Poor recruitment Grazing	Monitor and manage disturbance activities Develop a fire management plan Liaise with land managers Collect seed for storage and use in research and translocation Establish new populations in secure areas
Subpopulation 3 Road reserve, ESE of Scaddan.	Shire Road Reserve	30/03/2016 – 0 mature individuals 05/07/2006 – 1 mature individual	0 m^2	Good	Road maintenance Senescence Salinity	Monitor and manage disturbance activities Develop a fire management plan

					Poor recruitment Grazing	Liaise with land managers Collect seed for storage and use in research and translocation Establish new populations in secure areas
Subpopulation 4 - New ESE of Scaddan.	Unallocated Crown land	30/03/2016 – 3 mature individuals	12 m^2	Very good	Poor recruitment Senescence Salinity Poor recruitment Grazing	Monitor and manage disturbance activities Develop a fire management plan Liaise with land managers Collect seed for storage and use in research and translocation Establish new populations in secure areas
Subpopulation 5 - New ESE of Scaddan.	Private property	30/03/2016 – 1 mature individual	4 m^2	Degraded	Poor recruitment Senescence Salinity Poor recruitment Grazing	Monitor and manage disturbance activities Develop a fire management plan Liaise with land managers Collect seed for storage and use in research and translocation Establish new populations in secure areas

Nomination detail

Please refer to the Departments guidelines on nominating species for amendment of the Western Australian threatened species lists at http://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/Threatened_Species_Nomination_Guidelines_2014.pdf

For technical information on terminology used in this form, and the intent of information requirements, as they relate to an assessment of this nomination against the IUCN Red List criteria, refer to the 2001 *IUCN Red List Categories and Criteria. Version 3.1*
http://www.iucnredlist.org/documents/redlist_cats_crit_en.pdf

and *Guidelines for Using the IUCN Red List Categories and Criteria Version 11* (February 2014)
http://cmsdocs.s3.amazonaws.com/RedListGuidelines.pdf

Section 1: Taxonomy

1.1 Current taxonomy		
Species name and Author:		
Subspecies name(s) and Author:	*Eremophila glabra* subsp. Scaddan (C. Turley s.n. 10/11/2005)	
Is the species/subspecies conventionally accepted?		Yes ☒ No ☐
Is there any controversy about the taxonomy?		Yes ☐ No ☒
If not conventionally accepted and/or if there is any controversy; provide details:		
Has the species/subspecies been formally named?		Yes ☐ No ☒
Has the species/subspecies been recently described?		Yes ☐ No ☒
If the species has not been formally named or described; is it in the process of being described? Is there an anticipated date for the publication of the description? Has a type specimen been deposited? And if so provide the registration number and where deposited.	Part of the *Eremophila glabra* species complex that is currently undergoing taxonomic revision. No anticipated date for publication at this time. The subspecies has been collected and lodged with the Western Australian herbarium on four occasions from three separate sites. Specimens summarised below: 1. PERTH 08273804 31/07/2010 – Subpopulation 4 C. 2. PERTH 07362218 25/06/2006 - Subpopulation 2. 3. PERTH 07201079 10/11/2005 - Subpopulation 1. 4. Perth 07016476 Subpopulation 1 – 26/05/2005.	
If there are any closely related taxa provide details and include key distinguishing features:	A member of the *Eremophila glabra* complex distinguished from others by the following combination of characters - a large plant 2-4 m high by 2-3 m wide, leaves wavy margined, scarcely hairy, 25-40 mm long by 8-	

	15 mm wide, sepals small, green, 6-10 mm long by 2-3 mm wide, corolla yellowish-green, 20-25 mm long.
1.2 Taxonomic history	
Are there recent synonyms for the species?	Yes ☐ No ☒
If Yes; provide details of synonyms:	
Have there been recent changes in the taxonomy or nomenclature?	Yes ☐ No ☒
If Yes; provide details of changes:	
1.3 Hybridisation	
Is there any known hybridism with other species in the wild?	Yes ☐ No ☒ Unknown ☐
If Yes; Where does this occur and how frequently?	

Section 2: Species information

2.1 Morphology / physical description	
Insert photograph(s) of species or provide as an attachment:	
Species description:	A large shrub 2 to 4 m high by 2 to 3 m wide with green, wavy margined scarcely hairy leaves 25 to 40 mm long by 8 to 15 mm wide, small green sepals 6 to 10 mm long by 2 to 3 mm wide and a yellowish-green corolla 20 to 25 mm. Flowering from August to November (Brown and Buirchell 2011). 


2.2 Biology *(provide details)*

There is very little known regarding the biology of the subspecies. It is thought to be pollinated by nectar seeking birds. Likely to be a relatively short-lived taxon which requires fire or soil disturbance to stimulate germination of soil-stored seed to recruit.

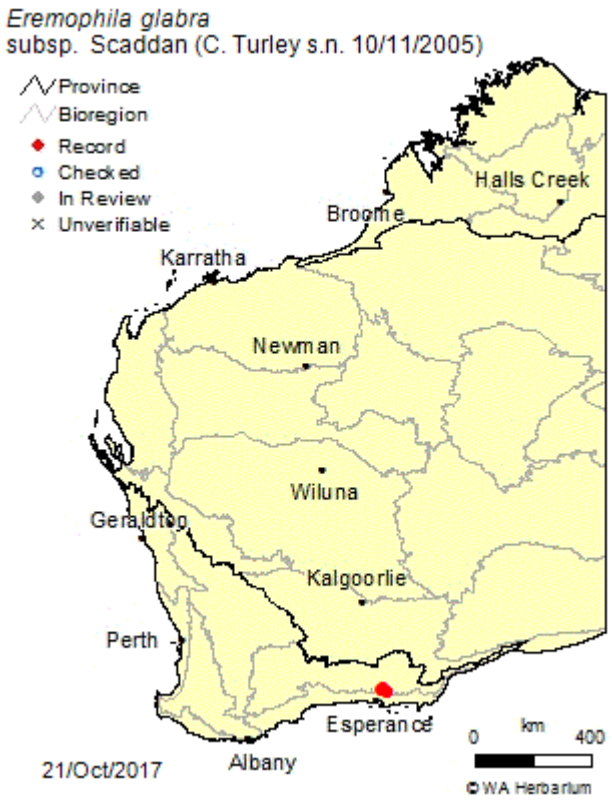
2.3 Ecology *(provide details)*

There is very little known regarding the ecology of the subspecies. It occurs on the margins of a saline drainage lines.

Section 3: Geographic range

3.1 Distribution

Insert map(s) of the species distribution, or provide as an attachment:



From Western Australian Herbarium (1998–).

What is the current distribution of the species within Western Australia?	Only known from the Scaddan area approximately 50 km NNE of Esperance in Parks and Wildlife's South Coast Region.
What percentage of the species distribution is within WA?	100 % of this subspecies distribution is within WA.
What is the current distribution of the species within the other Australian States and Territories?	N/A.
Does the species occur outside of Australia?	Yes ☐ No ☒
If Yes, what percentage of the species distribution is within Australia, or what is the significance of the occurrence in Australia?	
What is the current international trend for the species?	N/A
3.2 Migration *(fauna only)*	
Is the species migratory?	Yes ☐ No ☐
Is the migration within WA or within Australia or international?	
3.3 Extent of Occurrence (EOO) within Australia	
What is the current EOO?	~82 km^2

How has this been calculated?	Minimum convex polygon around all known subpopulations.
What is the historical EOO?	
What is the current EOO trend?	Decreasing ☐ Increasing ☐ Stable ☒
Provide details on the current trend – quantify if possible	Recent surveys have increased the EOO of this subspecies with two new subpopulations found. However the most recent population census information has indicated that subpopulations are senescing and one of the original subpopulations now contains no mature individuals. This has not effectively changed the EOO, but any permanent loss of subpopulations could result in a future reduction in the EOO.
If there has been a change in EOO when did this change occur?	There has been a positive change in the known EOO of this subspecies in the last 10 years with two new subpopulations discovered during targeted surveys.
Was the change observed, estimated, inferred or projected?	Change in EOO observed during targeted surveys.
If the EOO is decreasing / declining, is it continuing?	Yes ☒ No ☐
Is the continuing decline observed, estimated, inferred or projected?	There is the potential for future decline, but this will depend on the regeneration characteristics of the species.
Is there extreme fluctuation in EOO?	Yes ☐ No ☒
If Yes, provide details:	
3.4 Area of Occupancy (AOO) within Australia	
What is the current AOO?	The AOO is 16 km^2. Area of subpopulations is 56 m^2.
How has this been calculated?	The AOO has been estimated using the 2 km x 2 km grid method. Area of subpopulations is based on the assumption that each individual would occupy a four metre squared area.
What is the historical AOO?	Prior to the discovery of the two new subpopulations the AOO was 8 km^2, using the 2 km x 2 km grid method and the area of subpopulations 44 m^2, using the same method of calculation.
What is the current AOO trend?	Decreasing ☒ Increasing Stable ☐
Provide details on the current trend – quantify if possible	The increase in area of subpopulations has been based on an increase in the number of mature individuals due to the discovery of two new subpopulations and four individuals. However, there has been a slight decrease in area of previously known subpopulations with one subpopulation now containing no live plants. With potential loss of subpopulations, it can be inferred there would be a future decline in the area of subpopulations and ultimately the AOO.
If there has been a change in AOO when did this change occur?	This change has occurred in the last 10 years.
Was the change observed, estimated, inferred or projected? Give details.	The change was observed through targeted surveys for this subspecies.

If the AOO is decreasing / declining, is it continuing?		Yes ☒ No ☐
Is the continuing decline observed, estimated, inferred or projected? Give details.	All subpopulations of this subspecies are senescing with one subpopulation now containing no live plants. The decline in area of subpopulations, and potentially AOO, is thus observed and projected.	
Is there extreme fluctuation in AOO?		Yes ☐ No ☒
If Yes, provide details:		
Does the species have a restricted AOO?		Yes ☒ No ☐
If Yes, provide details:	Due to small population size and restricted distribution this subspecies is considered to have a restricted AOO.	

3.5 Number of Locations

'Locations' are defined as a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the taxon present. The size of the location depends on the area covered by the threatening event and may include part of one or many populations. Where a taxon is affected by more than one threatening event, location should be defined by considering the most serious plausible threat. (IUCN 2001).

At how many locations does the species occur?	Known from 5 subpopulations at 3 locations. These locations occur in habitat which is not contiguous and the surrounding landscape has been largely cleared for agriculture. Location 1 includes Subpopulations 2 and 3 which are in close proximity and threatened by road maintenance. Location 2 includes Subpopulations 4 and 5 which are in contiguous habitat and both threatened by poor recruitment. Location 3 includes Subpopulation 1 which is also threatened by road maintenance (as with location 1) but is not connected by contiguous habitat.	
Has there been a change in the number of locations?		Decrease ☐ Increase ☒ No change ☐
If there has been a change, when did this change occur?	The number of locations for this subspecies increased in 2016 when two new subpopulations representing a new location, were located during targeted surveys.	
Was the change observed, estimated, inferred or projected? Give details.	The change was observed through targeted surveys.	
Is the number of locations is decreasing / declining, is it continuing?		Yes ☐ No ☒
Is the continuing decline observed, estimated, inferred or projected? Give details.		
Is there extreme fluctuation in the number of locations?		Yes ☐ No ☒
If Yes, provide details:		
Does this species occur on any off-shore islands?		Yes ☐ No ☒
If Yes, provide details:		

3.6 Fragmentation

Is the distribution fragmented?	Yes ☒ No ☐
The phrase '**severely fragmented**' refers to the situation in which increased extinction risks to the taxon results from the fact that most of its individuals are found in small and relatively isolated populations (in certain circumstances this may be inferred from habitat information). These small populations may go extinct, with a reduced probability of recolonization.	
Is the distribution severely fragmented?	Yes ☐ No ☒
If Yes, provide details:	
3.7 Land tenure	
Is the species known to occur on lands managed primarily for nature conservation? i.e. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation	Yes ☐ No ☒
If Yes; provide details:	
Is the species known to occur on lands that are under threat? i.e. mining tenement, zoned for development	Yes ☒ No ☐
If Yes; provide details:	This subspecies is known to occur on shire road reserves, which have the potential to be disturbed during road maintenance activities.
Provide details of other land tenures where the species occurs as this relates to the species conservation status	This subspecies is also found on private property.

Section 4: Habitat

4.1 Habitat *(provide details in response to the question below)*	
Described the habitat suitable for the species (biological and non-biological). Include descriptions of specific purpose habitat (e.g. foraging, breeding, roosting, seasonal migration, different life stages).	The known populations are found in highly disturbed sandy-loam on road verges and the edge of a saline drainage line. Associated native plant species include; *Melaleuca* spp., *Eucalyptus uncinata, E. leptocalyx, E. occidentalis, Grevillea plurijuga, Exocarpos sparteus, Callitris roei, Pimelea cracens, Daviesia benthamii. Thryptomene* sp., *Hibbertia* sp., *Olearia muelleri, Acacia cyclops, Hakea* sp., *Acacia bartlei* (P3), *A. patagiata, Coopernookia strophiolata, Rhagodia* sp, *Lomandra mucronata* and *Lepidosperma* sp.
If the species occurs in a variety of habitats, is there a preferred habitat?	N/A
Does the species use refugia? *(include what is it and when is it used)*	N/A
Is the habitat restricted in extent or number of locations?	Yes ☒ No ☐
If Yes, provide details:	This subspecies is only known from 5 subpopulations and 3 locations in the Scaddan area approximately 50 km NNE of Esperance.

Is this species reliant on a threatened or priority species or ecological community?		Yes ☐ No ☒
If Yes, provide details:		
Are there any other species (sympatric species) that may affect the conservation status of the nominated species?		Yes ☐ No ☒
If Yes, provide details:	.	
What is the area, extent, abundance of habitat?	Unknown, but the known subpopulations are limited in area – calculated as 56 m^2.	
What is the quality of habitat?	The quality of habitat at each subpopulation ranges between completely degraded and moderately degraded.	
Is there a decline in habitat area, extent or quality?		Yes ☒ No ☐
If there is a decline, is the decline continuing?		Yes ☒ No ☐
Provide details:	Habitat degraded and subject to rising salinity.	
What is the critical habitat or habitat important for the survival of the species?		

Section 5: Population

'Population' is used in a specific sense in the Red List Criteria that is different to its common biological usage. Population is here defined as the total number of mature individuals of the taxon. In the case of taxa obligately dependent on other taxa for all or part of their life cycles, biologically appropriate values for the host taxon should be used. (IUCN 2001)

'Subpopulations' are defined as geographically or otherwise distinct groups in the population between which there is little demographic or genetic exchange (typically one successful migrant individual or gamete per year or less).

5.1 Subpopulations

Subpopulation *(include coordinates)*	Land tenure	Survey information: Date of survey and No. mature individuals	Area of subpopulation	Site / habitat Condition
Subpopulation 1 Road reserve, south east of Scaddan.	Shire Road Reserve	30/03/2016 – 9 mature individuals 10/11/2005 – occasional frequency of plants 26/05/2016 – Occasional frequency of plants	36 m^2	Moderate

Subpopulation 2 Road reserve, ESE of Scaddan.	Shire Road Reserve	30/03/2016 – 1 mature individual 25/06/2006 – 1 mature individual	4 m^2	Good -
Subpopulation 3 Road reserve, ESE of Scaddan.	Shire Road Reserve	30/03/2016 – 0 mature individuals 05/07/2006 – 1 mature individual	0 m^2	Good
Subpopulation 4 - New ESE of Scaddan.	Unallocated crown land	30/03/2016 – 3 mature individuals 31/7/2010 – 3 mature individuals	12 m^2 12 m^2	Senescing Good
Subpopulation 5 - New ESE of Scaddan.	Private property	30/03/2016 – 1 mature individual 31/7/2010 – 1 mature individual	4 m^2 4 m^2	Degraded Good

5.2 Population size (Australian context) *(include how numbers were determined/calculated)*	
What is the total population size?	14 mature individuals
What is the number of subpopulations?	5
What percentage of the population is within WA?	100 %
What percentage of the population is within Australia?	100 %

5.3 Population dynamics (Australian context) *(include how numbers were determined/calculated)*	
What is the number of mature individuals?	14
What is the number of immature individuals?	0
What is the number of senescing/past reproductive individuals?	5
What is the maximum number of mature individuals per subpopulation?	9
What is the percentage of mature individuals in the largest subpopulation?	64 %

What percentage of mature individuals is within WA?	100 %
What percentage of global mature individuals is within Australia?	100 %
What is the age of sexual maturity?	Unknown
What is the life expectancy?	Unknown
What is the generation length?	Unknown
What is the reproductive capacity? (i.e. litter size or number of seeds)	Unknown
What is the reproductive success?	Unknown

5.4 Population trend

What is the current population trend (mature individuals)?	Decreasing ☒ Increasing ☐ Stable ☐
What is the percentage of the population change and over what time period?	Other than an increase in the total number of individuals due to the location of two new populations, the general trend for this subspecies is decreasing; with one of the original populations now containing no live plants. Insufficient data to determine percentage decline.
How has this been calculated?	
If the trend is decreasing; are the causes of the reduction understood?	Yes ☒ No ☐
Have the causes of the reduction ceased?	Yes ☐ No ☒
Are the causes of the reduction reversible?	Yes ☒ No ☐
Is the reduction continuing (continuing decline)?	Yes ☒ No ☐
Has the change been observed, estimated, inferred or is it suspected (direct observation, index of abundance appropriate to the species)?	As plants mature they begin to senesce with several plants seen in the last targeted survey showing signs of senescing. One of the original populations has already senesced and contains no live plants.
When was the reduction or is it anticipated to occur?	Past ☐ Present ☒ Future ☐
What is the period of time for the reduction (in years and generations)?	Decline has occurred over the past 10 years and is expected to continue.
Has there been a reduction in the number of subpopulations?	Yes ☒ No ☐
If Yes, provide details:	Subpopulation 3 contains no live plants. Will be monitored to determine regeneration.
Are there extreme fluctuations in population size?	Yes ☐ No ☒
If Yes, provide details:	

5.5 Translocations and captive/enclosed subpopulations

Have there been translocations (introduction or re-introduction)?	Yes ☐ No ☒
Are there proposed translocations (introduction or re-introduction)?	Yes ☐ No ☒
Are there captive/enclosed/cultivated subpopulations?	Yes ☐ No ☒
Are there proposed captive/enclosed/cultivated subpopulations?	Yes ☐ No ☒
Are there self-sustaining translocated subpopulations?	Yes ☐ No ☒
If Yes, provide details:	
Are there translocated subpopulations that are not self-sustaining?	Yes ☐ No ☒
If Yes, provide details:	
Are there self-sustaining captive/enclosed subpopulations?	Yes ☐ No ☒
If Yes, provide details:	
Are there captive/enclosed subpopulations that are not self-sustaining?	Yes ☐ No ☒
If Yes, provide details:	
Other information on translocations and captive/enclosed subpopulations for the species (including failures):	

5.6 Important subpopulations

Identify any subpopulations that are important or necessary for the long-term survival of the species and provide details for why they are considered as such (i.e. key breeding, edge or range, maintenance of genetic diversity):

All populations of this subspecies are considered significant for its long term survival.

Section 6: Survey

6.1 Survey methods *(Provide details)*	
What survey methods are applicable to the species?	Due to small subpopulation sizes, targeted direct counts of individuals were undertaken. Explorative transects along road sides have been conducted and within areas of suitable habitat in UCL/VCL and nature reserves where access permits.
Are there preferred or recommended survey methods that yield better results for the species?	No.
Are there special requirements, techniques, expertise or other considerations that are necessary	A general knowledge of the subspecies and the habitat that it occurs in is required to ensure an accurate sampling method.

when surveying for this species?	
Are there reasons why the species may not be detected during surveys?	No. The subspecies is surveyed when it is in flower when it is readily detected.

Can the species be identified in the field?	Yes ☒	No ☐
Provide details:	Yes. The subspecies is a distinctive member of the *Eremophila glabra* complex.	
Can the species be easily confused within similar species in the field?	Yes ☐	No ☒
Provide details:	No. It is the only known member of the *Eremophila glabra* complex known to occur in the area.	

List any published survey guidelines, guidance statements, protocols, standard operating procedures or other documents that are relevant to conducting surveys for this species.

N/A

6.2 Survey effort

Has the species been well surveyed?	Yes ☒	No ☐
Have targeted surveys been conducted for the species?	Yes ☒	No ☐

Provide details of the successful and unsuccessful surveys undertaken for the species:	Potential habitat areas were identified near the known Scaddan populations with areas surveyed in 2015/2016. Targeted surveys led to the discovery of two new subpopulations and four additional mature individuals. In 2010 flora surveys carried out by environmental consultants for a mining company focused on areas of UCL immediately north of the known populations. This area contains suitable habitat for *E. glabra* subsp. Scaddan however no plants were located during these surveys. Surveys of suitable habitat to the east has also occurred whilst monitoring and surveying for *Myoporum turbinatum* between 2008 and 2014. These surveys contain habitat suitable for *Eremophila glabra* subsp. Scaddan (C. Turley s.n. 10/11/2005) and given that it is a distinctive species would have been detected if present in these areas. Areas within the vicinity of reserves in the Scaddan area have been regularly surveyed (at least twice per year between 2008-2014). Areas to the north east of population 1 were surveyed in 2014 by staff from the Department of Parks and Wildlife and in UCL to the north but no plants were detected. Fauna and flora surveys within several nature reserves (R 32783, R32130, R32313 and R32129) occurred in 2008. These reserves contain large areas of suitable habitat for *Eremophila glabra* subsp. Scaddan (C. Turley s.n. 10/11/2005) given the extensive saline drainage systems. No plants were identified during these surveys. Surveys in other areas of suitable habitat have also occurred whilst monitoring populations of *Darwinia* sp. Mt Heywood (TF-VU) between 2006 and 2015. No plants have been detected during these surveys. In 2014 surveys were carried out by Environmental Consultants along the proposed State Barrier Fence alignment. An area 100 m wide was surveyed along the length of the alignment including extensive salt lake systems and drainage lines containing suitable habitat. No *Eremophila glabra* subsp. Scaddan (C. Turley s.n. 10/11/2005) plants were located during these wide scale surveys.

6.3 Research *(Provide details)*

Has the species been well researched?		Yes ☐ No ☐ Partially ☒
What research has been or is being conducted?	Taxonomic research has been conducted concluding that this is a distinctive member of the *Eremophila glabra* complex worthy of recognition as a new subspecies.	
What are the knowledge gaps for the species?	Little is known about the biology and ecology of the subspecies.	
Research recommendations:	Conduct research on longevity, pollination, seed set, seed viability, recruitment requirements, habit requirements and effect of rising salinity. Information on seed bank dynamics is required to determine whether subpopulations are actually persisting even though no germinated plants are present. Conduct a translocation to a secure tenure location.	
6.4 Monitoring *(Provide details)*		
Is the species being monitored, either directly (targeted) or indirectly (general monitoring)?	Targeted monitoring for this species is aimed for every 2-5 years.	
What methods are used for monitoring?	Targeted plant counts, habitat mapping and explorative surveys.	
Monitoring recommendations:	To continue to monitor all known locations. Map and survey further areas of potential habitat.	

Section 7: Threats

7.1 Threats *(detail how the species is being impacted, i.e. how severe, the extent, evidence of the impact)*				
Threat *(describe how the threat impacts on the species. Include abiotic and biotic causes, human related e.g. exploitation, and biological characteristics of the species e.g. low genetic diversity)*	Extent *(give details of impact on whole species or specific populations)*	Impact *(what is the level of threat to the conservation of the species)*	Evidence	Time period *(past, present, future)*
Fire frequency	Whole subspecies	High	Too frequent fires within known habitat have the potential to lead to the loss of populations due to them being unable to replenish the seed bank.	Future
Grazing	Whole subspecies	Low	Seedlings specifically. All plants have the potential to be grazed by herbivores, however this is likely to only limit the development of more mature plants.	Future
Road maintenance activities	Populations 1-4	High	Four of the five populations are on shire road reserves, which may be graded and widened during road maintenance.	Present
Poor seedling survival	Whole subspecies	High	Poor survival rates of seedlings is likely to contribute to poor recruitment.	Present
Poor recruitment	Whole subspecies	High	Each of the subpopulations is experiencing senescence which results in the production of less viable seed, thereby contributing to poor recruitment. There is potential for poor germination of seed post disturbance due to the low number of mature individuals. Lack of recruitment and poor survival rates of seedlings post disturbance may lead to the local	Present

			extinction of populations.	
Salinity	Whole subspecies	High	Increased salinization of the soils is likely to lead to a decrease in the health of the habitat and subsequent loss of populations.	Future

Section 8: Management

8.1 Current management			
Is the species managed?	Yes, directly ☐	Yes, indirectly ☐	No ☒
If Yes; provide details of current or past management actions:			
Does the species benefit from the management of another species or ecological community?	Yes ☐	No ☒	
If Yes; provide details:			

8.2 Recovery planning		
Is there an approved Recovery Plan (RP) or Interim Recovery Plan (IRP) for the species?	Yes ☐	No ☒
List all relevant recovery plans or interim recovery plans (including draft, in-preparation, out-of-date, national and other State/Territory plans, and plans for other species or ecological communities that may benefit or be relevant to the nominated species)		
List other documents that may be relevant to the management of the species or the lands on which it occurs (i.e. area management plans, conservation advices, referral guidelines) Translocation, if undertaken, will occur in line with DBCA Corporate Policy Statement No. 35 (DPaW 2015*a*) and DBCA Corporate Guideline No. 36 (DPaW 2015*b*).		

8.3 Management recommendations
Monitor and manage disturbance activities within the vicinity of the populations to prevent irreversible damage to the plants. Develop and implement a fire management strategy, including the need for, and method of, the construction and maintenance of firebreaks. Liaise with land managers to ensure they are aware of the occurrence of the species and ensure its protection. Collect seed for storage and use in research and translocation. Establish new populations in secure areas.

Section 9: Nominator details

Nominator name(s):	
Contact details:	
Date submitted:	11/01/17
If the nomination has been refereed or reviewed by experts, please provide their names and contact details:	
Andrew Brown	

Section 10: References

9.1 References

Brown, A. and Buirchell, B. 2011. *A field guide to the Eremophilas of Western Australia*. Australia, Simon Nevill Publications.

Department of Parks and Wildlife (2015*a*) Corporate Policy Statement No. 35 *Conserving Threatened Species and Ecological Communities*. Perth, Western Australia.

Department of Parks and Wildlife (2015*b*) Corporate Guideline No. 36 *Recovery of Threatened Species through Translocation and Captive Breeding or Propagation*. Perth, Western Australia.

Western Australian Herbarium (1998–). *FloraBase—the Western Australian Flora*. Department of Parks and Wildlife. https://florabase.dpaw.wa.gov.au/.