

**Advice from the Threatened Species Scientific Committee (the Committee)
on the list of Threatened Species under the
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)**

1. Reason for Conservation Assessment by the Committee

This advice follows assessment of new information provided on:

***Eleocharis retroflexa* (a sedge)**

2. Summary of Species Details

Taxonomy	Conventionally accepted as <i>Eleocharis retroflexa</i> (Poir.) Urb.
State Listing Status	Listed as vulnerable under the Queensland <i>Nature Conservation Act 1992</i> . This species is not listed in the Northern Territory.
Description	<i>Eleocharis retroflexa</i> is a tufted annual sedge growing to 10 cm tall. Leaves are reduced to a sheath. Stems are four angled, and spikelets are 2–3.5 mm long, 1–2 mm wide, with 2–5 flowers. Nuts are white, 0.6–0.7 mm long, 0.5 mm wide, angles ribbed and epidermal cells deeply pitted (Kern, 1974; Cowie et al., 2000; Cowie and Kerrigan 2006).
Distribution	<p>The known distribution of the species in Australia is very disjunct, with two areas in northern Queensland near Cairns and two areas in the Northern Territory, south of Darwin.</p> <p>Restricted to wetlands, the species is currently known from six populations within Australia (Cowie and Kerrigan, 2006; Queensland Herbarium, 2009):</p> <ul style="list-style-type: none"> • Eubenangee Swamp south of Cairns (national park) • Cairns area: Edmonton and Woree (creek bed and roadside drain, respectively) • Wingate Mountains (2 swamps) (Aboriginal Land Trust) • Nitmiluk National Park (one swamp). <p>The species is also present outside of Australia, with a distribution from tropical America, Asia and throughout Malesia (Kern, 1974).</p>
Relevant Biology/Ecology	<p>Occurs on the margins of seasonal swamps and watercourses with <i>Schoenoplectus mucronatus</i> and fringe-rush (<i>Fimbristylis</i> spp.) and herbs in Queensland (Queensland Herbarium, 2009) and with paperbark (<i>Melaleuca</i>), eucalypt (<i>Eucalyptus</i>) and bloodwood (<i>Corymbia</i>) species and grasses in the Northern Territory (Cowie and Kerrigan, 2006).</p> <p>An annual (Kern, 1974), the species may undergo extreme natural fluctuations as it occurs on the edges of swamps and watercourses either in shallow water or dried out areas on fine sand, silt or grey podzolics, laterite or clay loam (Cowie and Kerrigan, 2006; Queensland Herbarium, 2009).</p> <p>An inconspicuous plant, which can only be accurately identified when fertile.</p> <p>Flowers and fruits are recorded from April–May, in the wet season (Cowie and Kerrigan, 2006; Queensland Herbarium, 2009).</p>
Threats	

<i>Known</i>	Urban development in the Cairns area.
<i>Potential</i>	In Queensland, where the species grows near habitation, it is potentially affected by weeds, development, and changed drainage. The populations occurring in remote areas of the Northern Territory are potentially affected by altered fire regimes and/or feral animals (Cowie and Kerrigan, 2006).

3. Public Consultation

Notice of the proposed amendment was made available for public comment for 30 business days. Any comments received that are relevant to the survival of the species have been considered by the Committee.

4. How judged by the Committee in relation to the EPBC Act criteria and Regulations

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

Not eligible

Criterion element	Evidence
Reduction in numbers	Insufficient data – There are no data to determine if the species has undergone a reduction in numbers, however as the species grows in remote areas in the Northern Territory it is considered there is a high likelihood of locating additional populations (Cowie and Kerrigan, 2006).

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

Not eligible

Criterion element	Evidence
Geographic distribution AND Geographic distribution precarious	Not limited – This species has an indicative extent of occurrence of 150 000 km ² (AVH, 2010). Area of occupancy is unknown. Insufficient data – Populations appear to be naturally disjunct. However, the low number of recorded populations may be a reflection of lower survey effort or the inconspicuousness of this plant. There are no data to determine if the species has undergone fluctuations or declines in area of occupancy, extent of occurrence, populations or numbers.

Criterion 3: The estimated total number of mature individuals is very low, low or limited; **and either**

(a) evidence suggests that the number will continue to decline at a very high, high or substantial rate; **or**

(b) the number is likely to continue to decline **and** its geographic distribution is precarious for its survival

Not eligible

Criterion element	Evidence
Total no. of mature individuals	No data
AND	
Continued rate of decline	No data
OR	
Total no. of mature individuals	No data
AND	
Continued decline likely	Insufficient data – See Criterion 1
AND	
Geographic distribution precarious	Insufficient data – See Criterion 2

Criterion 4: The estimated total number of mature individuals is extremely low, very low or low

Not eligible

Criterion element	Evidence
Total no. of mature individuals	No data

Criterion 5: Probability of extinction in the wild that is at least

(a) 50% in the immediate future; or

(b) 20% in the near future; or

(c) 10% in the medium-term future

Not eligible

Criterion element	Evidence
Probability of extinction in the wild	No data

5. Recommendation

Although there are insufficient data to assess the species against the criteria, the Committee recommends a precautionary approach be applied and hence that **no amendment** be made to the list referred to in section 178 of the EPBC Act and that *Eleocharis retroflexa* remains eligible for inclusion in the **vulnerable** category of the list.

Threatened Species Scientific Committee

2 December 2010

6. References cited in the advice

Australia's Virtual Herbarium (AVH) (2010). Query AVH. Council of Heads of Australian Herbaria.

Viewed: 14 July 2010

Available on the Internet at: <http://www.ersa.edu.au/avh/>

Cowie ID, Short PS, Osterkamp M and Madsen M (2000). Floodplain Flora: A flora of the coastal floodplains of the Northern Territory, Australia. Flora of Australia Supplementary Series 10. ABRS, Canberra.

Cowie I and Kerrigan R (2006). *Eleocharis retroflexa* Threatened Species Information Sheet. Northern Territory Government, Department of Natural Resources, Environment and the Arts.

Viewed: 12 November 2009

Available on the Internet at:

http://www.nt.gov.au/nreta/wildlife/animals/threatened/pdf/plants/Eleocharis_retroflexa_DD.pdf

Kern JH (1974). 'Cyperaceae'. Flora Malesiana, series 1, vol. 7:435-753.

Queensland Herbarium (2009). Specimen label information. Viewed 12 November 2009.

Urban I (1900). *Symbolae Antillanae seu Fundamenta Florae Indiae Occidentalis* 2: 165.