Blue Mountains Conservation Society Inc

ABN 38 686 119 087
PO Box 29 Wentworth Falls NSW 2782
Phone: (02) 4757 1872
E-Mail: bmcs@bluemountains.org.au Web Site: www.bluemountains.org.au

Nature Conservation Saves for Tomorrow

Wednesday 12th November, 2014

The Director
Terrestrial Species Conservation Section
Wildlife, Heritage and Marine Division
Department of the Environment

Dear Sir/Madam,

RE : *Eucalyptus aggregata* (Black Gum)

The Blue Mountains Conservation Society is a not-for-profit conservation organisation with some 850 members. The Blue Mountains Conservation Society supports the recommendations of the NSW Scientific Committee to list *Eucalyptus aggregata* (Black Gum) as a "Vulnerable Species" under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The NSW Scientific Committee have identified many reasonable conclusions why this species needs to be added to the Threatened Species list under clauses 15 and 16 of the *Threatened Species Conservation Regulation* 2002:" (NSW Scientific Committee 2010).

Eucalyptus aggregata has been identified by the NSW Scientific Committee as a vulnerable species due to many impending anthropogenic threats. The special niche environments that *Eucalyptus aggregata* is distributed within must also be taken into consideration. These present threats and its fragmented distribution in niche environments ultimately lead to the conclusion that this species must be better protected.

As stated by the NSW Scientific Committee**;**

> ***"Eucalyptus aggregata* Deane & Maiden (Black Gum) is eligible to be listed as a Vulnerable species as, in the opinion of the Scientific Committee, it is facing a high risk of extinction in New South Wales in the medium-term future as determined in accordance with the following criteria as prescribed by the *Threatened Species Conservation Regulation* 2002:" (NSW Scientific Committee 2010).**
>
> **Clause 15**
> **The geographic distribution of the species is estimated or inferred to be:**

(c) moderately restricted,
and:
(d) a projected or continuing decline is observed, estimated or inferred in:
(i) an index of abundance appropriate to the taxon,
(ii) geographic distribution, habitat quality or diversity, or genetic diversity (NSW Scientific Committee 2010).

Clause 16
The estimated total number of mature individuals of the species is:
(c) moderately low,
and:
(d) a projected or continuing decline is observed, estimated or inferred in:
(i) an index of abundance appropriate to the taxon,
(ii) geographic distribution, habitat quality or diversity, or genetic diversity (NSW Scientific Committee 2010).

E. aggregata's ecology alone, without the added pressure of anthropogenic threats warrants being listed as Vulnerable. As most of its distribution is outside the protection of conservation areas, the need to protect these remaining stands of mature trees as a high priority is accentuated. The NSW Scientific Committee has already identified that these stands across mostly private land and exotic pastures are isolated and fragmented from each other, making it harder for this species to survive in these unnatural environments. A lack of recruitment due to this fragmentation, together with grazing pressure, loss of natural stand habitats due to increasing land clearing and competition from invasive flora species are all identified as Key Threats (NSW Scientific Committee 2010).

An examination of Bionet records indicates a marked decline in records of occurrences of *E. aggregata* due to causes such as :

- clearing for pine plantations at Lidsdale and Oberon & elsewhere;
- clearing for agriculture in Hartley and rural residential development;
- around the site of the Lithgow Correctional Centre;
- and open-cut mining and power station development at Blackmans Flat.

The current Centennial Coal Nubeck & Pine Dale open-cut mine DGR's will add to the areas of Black Gum habitat already destroyed in the Lambert's Gully, Enhance Place and Invincible Mines' areas.

Changes to aquifers from underlying longwall mining are another Key Threatening Process which is endangering the species locally. As a moisture dependent species reliant on subtle riparian ecosystems with higher groundwater tables, the drainage of these by fracturing of aquicludes threatens their survival. The destruction of the Lamb's Creek Swamp aquifer by the Angus Place Colliery longwall sections some 30-40 years ago evidences this.

Conversely, the large volumes of saline waters discharged from mining operations into other waterways can drown plants such as *E. aggregata* and the unnaturally high levels of salts and heavy metals are toxic. The current Extensions being sought to increase discharges into Sawyers Swamp & Kangaroo Creeks by Angus Place & Springvale Mines will further threaten ecosystems along these streams.

Many of the flora species within the Sydney Bioregion are documented to be important resources for many fauna species and many of its flora species may well be Keystone Species that these fauna species are critically dependent upon.

It is stated that the current knowledge on the majority of these fauna species is much less documented than that of the flora. This also intensifies the need for better protection as many of these less documented fauna species may well be dependent on *Eucalyptus aggregate* as Keystone Species in their niche habitat and may well not survive as prolifically in other Ecological Communities.

The Wallerawang/Lidsdale/Blackmans Flat population of *E aggegata* is one of only three populations across its total range in NSW and is of sufficient significance to warrant consideration in relation to the Critical Habitat provisions of the TSC Act.

Certainly with this in mind, the precautionary principle must be observed and the highest order of protection must be granted to this species.

Regards,

Mr Nakia Belmer

Threatened Species officer, Blue Mountains Conservation Society.

Email bayern11@tpg.com.au
Ph 0414 344 741

Appendix

Ecology

- Grows in the lowest parts of the landscape.
- Grows on alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers.
- Often grows with other cold-adapted eucalypts, such as Snow Gum or White Sallee (*Eucalyptus pauciflora*), Manna or Ribbon Gum (*E. viminalis*), Candlebark (*E. rubida*),

Black Sallee (*E. stellulata*) and Swamp Gum (*E. ovata*). Black Gum usually occurs in an open woodland formation with a grassy groundlayer dominated either by River Tussock (*Poa labillardierei*) or Kangaroo Grass (*Themeda australis*), but with few shrubs.

- Also occurs as isolated paddock trees in modified native or exotic pastures.
- Many populations occur on travelling stock reserves, though stands and isolated individuals also occur on private land.
- There are very few stands in conservation reserves (*NSW Government Office of Environment and Heritage 2014*).

Threats

- Clearing for cropping and grazing.
- The naturally small area and patchiness of its habitat is under pressure from further reduction in area.
- Small-scale clearing as farming properties are subdivided for rural-residential use.
- Lack of recruitment, especially as older trees are gradually being removed by wind-storms and natural attrition.
- Lack of recruitment under current grazing.
- Lack of recruitment because of competition by weeds, particularly Blackberry (*Rubus spp*.), Phalaris (*Phalaris aquatica*), Cocksfoot (*Dactylis glomerata*), willows (*Salix spp*.) and Scotch Broom (*Cytisus scoparius*).
- In small populations, hybridisation with related species (e.g. Candlebark (*Eucalyptus rubida*) and Manna Gum (*E. viminalis*)), is causing lowering of genetic fitness, and is increasing the risk of extinction.
- Climate change effects (i.e. increasing average temperatures and reductions in effective rainfall) may reduce the species' viability by reducing conditions suitable for recruitment and establishment of seedlings.
- Climate change may also lead to increased invasion by seedlings of Candlebark and Manna Gum, which may lead to increased competition with Black Gum.
- Herbicide control of fire weed & serrated tussock may negatively impact recruitment of the species (*NSW Government Office of Environment and Heritage 2014*).