

Australian Capital Territory

# Nature Conservation (Black Gum) Conservation Advice 2019

Notifiable instrument NI2019–239

made under the

Nature Conservation Act 2014, s 90C (Conservation advice)

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## 1 Name of instrument

This instrument is the *Nature Conservation (Black Gum) Conservation Advice 2019*.

## 2 Commencement

This instrument commences on the day after its notification day.

## 3 Conservation advice for the Black Gum

Schedule 1 sets out the conservation advice for the Black Gum (*Eucalyptus aggregata*).

Arthur Georges  
Chair, Scientific Committee  
1 May 2019

# Schedule 1

(see s 3)

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**ACT**  
Government

Environment, Planning and  
Sustainable Development



# CONSERVATION ADVICE

## BLACK GUM

### *Eucalyptus aggregata*

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#### CONSERVATION STATUS

Black Gum *Eucalyptus aggregata* H. Deane & Maiden (Deane and Maiden 1900) is recognised as threatened in the following jurisdictions:

National	<b>Vulnerable</b> , <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ACT	<b>Vulnerable</b> , <i>Nature Conservation Act 2014</i>
NSW	<b>Vulnerable</b> , <i>Biodiversity Conservation Act 2016</i>
VIC	<b>Threatened</b> , <i>Flora and Fauna Guarantee Act 1988</i> <b>Endangered</b> , <i>Advisory List of Threatened Vertebrate Fauna 2013</i>

#### ELIGIBILITY

Black Gum is listed as Vulnerable in the ACT Threatened Native Species List under IUCN Criterion B — B2(a)(b)(iii)(iv)(v). The factors that make it eligible include: the area of occupancy (AOO = 864 km<sup>2</sup> based on 2x2 km grids) is *limited*; the geographic distribution is *severely fragmented*; and a decline may be inferred or projected in the area, extent and quality of its habitats, the number of locations and the number of mature individuals (Threatened Species Scientific Committee (TSSC) 2015).

#### DESCRIPTION AND ECOLOGY

Black Gum is a small to medium-sized woodland tree growing to 18 m tall. The bark on the trunk and main branches is dark-greyish-black, deeply fibrous or flaky and does not shed annually. Only the uppermost branches and twigs have smooth whitish, cream or greyish bark that sheds yearly. The juvenile leaves are narrow or oval-shaped, dull green and arranged opposite to one another. The adult leaves are slightly curved and round-ended, about 12 cm long and 1–2 cm wide. They are glossy dark green and have the same colour on each surface. The buds, flowers and fruits occur in tight clusters of 7; the clusters are on stalks 3–4 mm long. The buds are egg-shaped, 3–5 mm long and 2–3 mm wide.



Black Gum (Greg Baines – Canberra Nature Map)

The flowers are white and are followed by gum-nuts which are cone- or cup-shaped, 2–4 mm long and 3–5 mm wide. The disc on the surface of the gum-nut has processes (valves) which emerge from the disc (OEH 2018).

Black Gum flowers from November to May (Benson and McDougall 1998) and DSE (2004) suggest that pollination is likely to occur by a range of insects, birds and mammals. Field et al. (2008) states the pollination system is probably entomophilous (insect mediated) due to floral foraging by a diversity of insect species including the Honeybee (*Apis mellifera*) and native bees such as *Leioproctus* (*Colletidae*). Seed is dispersed locally by wind, water and gravity and there is no dormancy phase. Maximum seed fall is thought to be between late summer and early autumn (Benson and McDougall 1998).

Black Gum forms a lignotuber and sprouts from epicormic buds after fire damage (Benson and McDougall 1998; Brooker et al. 2002). The species is thought to live for more than 100 years (Benson and McDougall, 1998). The exact reproductive age of Black Gum is unknown but observations of some naturally recruited trees in the Australian Capital Territory (ACT) suggest that the species attains reproductive maturity in fewer than 20 years (TSSC 2015). The generation length of Black Gum is not known.

## DISTRIBUTION AND HABITAT

Black Gum is found in New South Wales (NSW) and the ACT with a disjunct sub-population around Woodend in Victoria (Atlas of Living Australia (ALA) 2018). There are fewer than 10 000 mature trees left, with the majority (6300–8000) occurring in NSW (TSSC 2015) mostly in the central and southern highlands.

In the ACT, the species occurs in small, isolated patches, with only 16 known (naturally occurring) mature trees in 2014 (TSSC 2015). Black Gum has been recorded at Gungahlin, Kowen, Mount Majura and Watson (Canberra.naturemapr.org 2018). Older records identify a further two mature trees by the Kings Highway, but these have subsequently been removed (TSSC 2015). There are an additional 20 trees planted in the Canberra suburb of Garran and more in Yarralumla that were cultivated by the CSIRO Division of Forestry (TSSC 2015). The stand in the ACT is stable but its ability to increase in the future is very limited as a result of the threats facing the species. Only two seedlings are known to authorities and these are located in the Kings Highway corridor (TSSC 2015). The ACT stand of Black Gum is important as it occurs on the edge of the species' distribution and may contain important genetic variability which could be of assistance to the conservation of the species in a changing climate (TSSC 2015).

Black Gum grows on alluvial soils in, poorly-drained flats and hollows adjacent to swamps, creeks and small rivers and up adjoining slopes (up to eight metres above waterline) onto Ordovician Sandstones and Shales (DSE 2004; OEH 2018). It is usually found in open woodland with a grassy understory dominated by River Tussock (*Poa labillardierei*) or Kangaroo Grass (*Themeda triandra*) and with few shrubs present (DSE 2004; OEH, 2018). Black gum is often found with other eucalypts including Snow Gum (*E. pauciflora*), Manna or Ribbon gum (*E. viminalis*), Candlebark (*E. rubida*), Black Sallee (*E. stellutata*) and Swamp Gum (*E. ovata*) (Brooker et al. 2002; Field 2008; OEH 2018).

## THREATS

The major threats to Black Gum are mortality as a result of habitat clearance, suppression of gene flow due to habitat fragmentation, lack of recruitment and genetic hybridisation (TSSC 2015; OEH 2018).

## MAJOR CONSERVATION OBJECTIVES

The conservation objectives stated in the Commonwealth *Conservation Advice* (TSSC 2015) for Black Gum include the following:

- maintain and increase the number and size of wild populations
- maintain and enhance quality existing and potential habitat
- abate identified threats where possible
- investigate options for linking, enhancing or establishing additional populations
- raise awareness of Black Gum within the local community
- effectively administer the recovery effort.

## CONSERVATION ISSUES AND PROPOSED MANAGEMENT ACTIONS

The conservation actions are detailed in the Commonwealth Conservation Advice for Black Gum (TSSC 2015) and a summary from NSW (OEH 2018) includes the following:

- mark locations of this species on relevant maps
- restrict removal of trees
- fence out mature stands to reduce or eliminate grazing pressures and to allow regeneration.
- control weeds that inhibit regeneration
- encourage enhancement plantings around remnants
- sign-post locally significant roadside populations.

## OTHER RELEVANT ADVICE, PLANS OR PRESCRIPTIONS

- Commonwealth Conservation Advice — Black Gum (TSSC 2015)

## LISTING BACKGROUND

Black Gum was listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 17 November 2015 under EPBC Criterion 2: B2(a)(b)(iii)(iv)(v). In 2019, under the *Nature Conservation Act 2014*, the ACT Scientific Committee recommended that Black Gum be listed in the Vulnerable category in the ACT Threatened Native Species List to align with the EPBC Act listing.

## REFERENCES

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- Brooker MIH, Slee AV, Connors JR and Duffy SM 2002. *EUCLID – Eucalypts of Southern Australia*. CSIRO Publishing, Melbourne.
- Canberra.naturemapr.org (CNM) 2018. *Canberra Nature Map*. Accessed 16 October 2018 from: <https://canberra.naturemapr.org/Community/Species/3439>
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- Department of Sustainability and Environment (DSE) 2004. *Action Statement - Black Gum Eucalyptus aggregata*. Department of Sustainability and Environment, Melbourne. Accessed 16 October 2018 from:

[https://www.environment.vic.gov.au/\\_data/assets/pdf\\_file/0023/32576/Black\\_Gum\\_Eucalyptus\\_aggregata.pdf](https://www.environment.vic.gov.au/_data/assets/pdf_file/0023/32576/Black_Gum_Eucalyptus_aggregata.pdf)

Field DL 2008. The importance of ecological factors in determining the pattern of interspecific hybridisation in fragmented landscapes of *Eucalyptus aggregata*. PhD thesis, University of Wollongong, Wollongong. Accessed 16 October 2018 from: <https://ro.uow.edu.au/theses/17/>

Office of Environment and Heritage (OEH) 2018. Black Gum – profile. OEH NSW, Sydney. Accessed 16 October 2018 from: <http://www.environment.nsw.gov.au/threatenedspecies/>

Threatened Species Scientific Committee (TSSC) 2015. *Approved Conservation Advice Eucalyptus aggregata Black gum*. Department of the Environment, Canberra. Accessed 16 October 2018 from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/20890-conservation-advice-171115.pdf>

## FURTHER INFORMATION

Further information on this species or other threatened species and ecological communities can be obtained from the Environment, Planning and Sustainable Development Directorate (EPSDD).

Phone: (02) 132281, EPSDD Website: <http://www.environment.act.gov.au/cpr>