

Ozothamnus floribundus

flowery everlastingbush

TASMANIAN THREATENED SPECIES NOTESHEET



Image by Mark Wapstra

Scientific name: *Ozothamnus floribundus* de Salas & Schmidt-Leb., *Phytotaxa* 358: 135 (2018)

Common name: flowery everlastingbush

Group: vascular plant, dicotyledon, family **Asteraceae**

Status: *Threatened Species Protection Act 1995*: listing as **endangered pending**
Environment Protection and Biodiversity Conservation Act 1999: **Not Listed but eligible**

Distribution: Biogeographic origin: **endemic to Tasmania**
Tasmanian NRM Regions: **South**
Tasmanian IBRA Bioregions (V6): **South East**

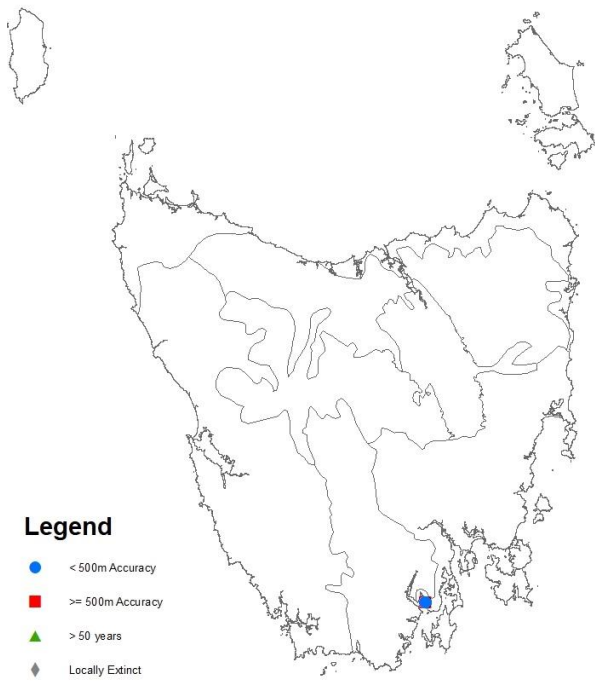


Figure 1. Distribution of *Ozothamnus floribundus*, showing IBRA bioregions (V6)



Plate 1. *Ozothamnus floribundus*
(image by Wendy Potts)

SUMMARY: *Ozothamnus floribundus* (flowery everlastingbush) is a shrub in the daisy family that is known only from a single location in lowland south-eastern Tasmania, the population now comprising 25 to 30 plants extending across an area of about 900m² on a roadside cutting through shrubby/heathy *Eucalyptus obliqua* dry sclerophyll forest and extending onto adjacent private land. The species is at imminent risk of extinction due to its critically small population size, and its precarious steep roadside habitat with little natural adjacent vegetation to expand into. As well as being subject to stochastic risk due to its small population size, the species is at risk from further clearing, drying out of its habitat due to impacts of climate change and maturation of adjacent exotic pines (*Pinus radiata*) compromising persistence and recruitment, invasion by pine seedlings and other weeds and inappropriate management of the roadside.

inflorescences (present in December and January) will be required to formally confirm the identity of the species in the unlikely event of new occurrences being found.

Description

The younger stems, leaves and inflorescences are viscid with a pale yellow slightly sweetly aromatic exudate. Older stems have slightly raised persistent leaf bases. The leaves are loosely crowded, spreading, with a linear lamina typically 3.7 to 6.3 mm long and 0.6 to 0.9 mm wide, reflexed margins and a pointed to blunt rounded apex. They are bright green with a sunken midrib and have a slightly woolly upper surface, mostly evident on older leaves, and a cottony under surface. The florets are arranged together in terminal clusters (capitula) of 4 to 5 (sometimes 6), surrounded by a cylindrical whorl of dry, thin, pointed bracts, the whorl 4 to 5 mm long and a diameter of 1.1 to 1.6 (sometimes 1.7) mm. The inner bracts are spatulate with a long claw and a spreading white lamina. The small, dry fruit (achene) is covered in tiny protrusions, and the bristles of the pappus (a ring of hairs found on top of fruit) are barbed with club-shaped ends.

[description based on de Salas & Schmidt-Lebuhn 2018]

Confusing species

Ozothamnus floribundus is most similar to *Ozothamnus ericifolius*, which occurs in montane habitat on the Central Plateau, but differs by having a narrower leaf lamina and capitulum (de Salas & Schmidt-Lebuhn 2018).

DISTRIBUTION AND HABITAT

Ozothamnus floribundus is endemic to south eastern Tasmania, known only from Merchants Hill near Randalls Bay south of Cygnet

IDENTIFICATION AND ECOLOGY

Ozothamnus floribundus is a slender, columnar, highly floriferous shrub up to 1.2 m high. It is likely that, as for similar members of the genus, the species is an obligate seeder unable to reshoot after fire, with seed remaining viable for only a relatively short period. Age to maturity is unknown but likely to be at least several years. The species flowers in December to January with seed maturing in late January.

There are currently 227 species in the Asteraceae family native to Tasmania, with *Ozothamnus floribundus* being one of 25 *Ozothamnus* species (de Salas & Baker 2019), three of which are listed on Schedules of the Tasmanian *Threatened Species Protection Act 1995*.

Survey techniques

Ozothamnus floribundus can be detected at any time of the year from vegetative growth though

Table 1. Population summary for *Ozothamnus floribundus*

	Subpopulation	Tenure	NRM Region *	1:25000 Mapsheet	Year last (first) seen	Area occupied (ha)	Number of mature plants
1	Merchants Hill	road batter (Channel Highway) /private land	South	Lymington	2019 2016 (1974)	0.09 0.09	25-30 29



Plate 2. Habitat of *Ozothamnus floribundus*
(image by Wendy Potts)

(Figure 1, Table 1). It occurs at an elevation of 125 to 140 m a.s.l. in shrubby/heathy *Eucalyptus obliqua* dry sclerophyll forest on substrate variously described as sandstone (de Salas & Schmidt-Lebuhn 2018) or mudstone with some dolerite influence (Mark Wapstra pers. comm.).

POPULATION ESTIMATE

Number of subpopulations = 1

Number of locations = 1

Extent of occurrence = 0.0009 km²

Area of occupancy = 0.09 ha

Area of occupancy (as per IUCN criteria) = 4 km²

No. of mature individuals = 25 to 30

While only formally described in 2018, the Merchants Hill occurrence has been recognised as a discrete taxon for many years and the probability of finding new occurrences is considered to be low. The population was known to be more widespread prior to clearing for conversion to pasture (Miguel de Salas, pers comm.) and it is assumed that part of the occurrence was lost for the establishment of the highway.

RESERVATION STATUS

Ozothamnus floribundus is unreserved.

CONSERVATION ASSESSMENT

Ozothamnus floribundus is in the process of being listing as endangered on Schedules of the Tasmanian *Threatened Species Protection Act 1995*, meeting the following criterion:

D: Total population extremely small or area of occupancy very restricted, and

1. total population estimated to number fewer than 250 mature individuals;
2. total population with an area of occupancy less than 0.01 km² (1 hectare), and typically in five or fewer locations that provide an uncertain future due to the effects of human activities or stochastic events, and thus capable of becoming extinct within a very short time period.

THREATS, LIMITING FACTORS AND MANAGEMENT ISSUES

Specific threats identified for *Ozothamnus floribundus* are discussed below:

Stochastic events: *Ozothamnus floribundus* is known only from one critically small occurrence, both in terms of numbers of plants and area occupied, making the species highly prone to extinction from inadvertent and chance events, the risk exacerbated by the likely lack of a long-lived soil seed store.

Land clearing: Part of the only occurrence is known to have been cleared for establishment of pasture, albeit prior to the formal description as a discrete species. It is assumed that part of the occurrence was cleared for the establishment of the Channel Highway and may be impacted by future road realignments or maintenance works. The species, now restricted to a steep roadside batter, extending into a narrow remaining strip of dry forest, is sandwiched between the Channel Highway and paddock leaving little habitat for the species to extend into.

Drought: Other lowland *Ozothamnus* species in Tasmania have been observed to suffer from drought-induced mortality and hampered recruitment from seed in recent decades. It is likely that the critically small occurrence of *Ozothamnus floribundus* may not be able to sustain even small losses due to drought, and the area in which the species occurs has become considerably drier in recent years (Wendy Potts pers. comm.).

Exotic species: Trees of *Pinus radiata* (radiata pine) have established along the highway adjacent to the occurrence and are approaching

maturity, causing the habitat to become drier and less conducive to recruitment of *Ozothamnus floribundus* along the highway. Pine seedlings are also evident within the occurrence and if left unchecked may compete with the *Ozothamnus*. While not an immediate threat, *Erica lusitanica* (spanish heath) is at risk of spreading along the highway from nearby infestations.

Roadside management: The species is at risk from roadside management activities such as spraying, slashing and spread of weeds.

Fire: As it is likely that *Ozothamnus floribundus* is an obligate seeder, a fire frequency of less than the time for plants to reach maturity has the capacity to eliminate the species. Conversely, the prolonged absence of fire may result in fewer recruitment niches though this is unlikely in its remaining habitat, a narrow strip sandwiched between the highway and paddock. The species escaped the 1967 bushfires and has not been burnt since. A fire interval of 15 to 25 years is generally recommended for the vegetation type.

Climate change: *Ozothamnus floribundus* is at risk from an increase in the frequency and intensity of drought and fires as a consequence of climate change, changes that are now evident in the area in which the species occurs.

MANAGEMENT STRATEGY

What has been done?

Seed has been collected for long term conservation storage at the Tasmanian Seed Conservation Centre (based at the Royal Tasmanian Botanical Gardens, Hobart).

Management objectives

The main objectives for the recovery of *Ozothamnus floribundus* are to prevent the loss or degradation of the known occurrence and potential habitat in its immediate vicinity, and to establish ex situ conservation plantings.

What is needed?

Agencies, groups or individuals may assist with some or all of the following recovery actions

(coordinated efforts may achieve the best and most efficient results):

- provide information and extension support to relevant Natural Resource Management committees, local councils, government agencies, the local community and development proponents on the locality, significance and management of the species and its potential habitat;
- remove trees and seedlings of *Pinus radiata* adjacent to the Merchants Hill site;
- reduce the risk of introducing *Erica lusitanica* and other weeds into the Merchants Hill site by treating nearby infestations;
- introduce roadside maintenance protocols to ensure that plants and habitat are not destroyed or damaged by spraying, slashing or spreading weeds into the Merchants Hill site;
- include the Merchants Hill site as a priority site for monitoring and management in the Department of State Growth's Roadside Conservation Program;
- monitor the known site to determine life history attributes and response to disturbance in order to better inform management;
- planned burns should only be undertaken following seed maturation (late summer to autumn);
- if burnt, protect the occurrence from further burns until post-fire recruits reach maturity and have produced seed;
- establish ex situ plantings to decrease the risk of extinction in the wild;
- consider supplementing the Merchants Hill occurrence;
- pursue listing on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*;
- collect more seed to supplement the collection held for long-term conservation storage at the Tasmanian Seed Conservation Centre (based at the Royal Tasmanian Botanical Gardens).

REFERENCES

- de Salas, M.F & Baker, M.L. (2019). *A Census of the Vascular Plants of Tasmania, including Macquarie Island*. Tasmanian Herbarium, Tasmanian Museum and Art Gallery, Hobart
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- de Salas, M.F & Schmidt-Lebuhn, A.N. (2018). Integrative approach resolves the taxonomy of the *Ozothamnus ledifolius* (Asteraceae: Gnaphaliae) species complex in Tasmania, Australia. *Phytotaxa* 358 (2): 117–138.

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View: www.naturalvaluesatlas.tas.gov.au
www.dpipwe.tas.gov.au/threatenedspecieslists
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