

Acacia bifaria

EN

Taxonomic Authority: Maslin

 Global Assessment Regional Assessment

Region: Global

 Endemic to region

Upper Level Taxonomy

Kingdom: PLANTAE

Phylum: TRACHEOPHYTA

Class: MAGNOLIOPSIDA

Order: FABALES

Family: LEGUMINOSAE

Lower Level Taxonomy

Rank:

Infra- rank name:

 Plant Hybrid

Subpopulation:

Authority:

General Information

Distribution

Acacia bifaria is endemic to Australia, only known from Ravensthorpe to the Fitzgerald River (c. 30 km east of Jerramungup) in south-western Western Australia. Recent surveys conducted around Wellstead found the species in the area (Ecologia Environment 2008).

Range Size

Area of Occupancy:

Extent of Occurrence: 3700

Map Status:

Elevation

Upper limit: 320

Lower limit: 50

Depth

Upper limit:

Lower limit:

Depth Zones

 Shallow photic Bathyl Hadal Photic Abyssal

Biogeographic Realm

 Afrotropical Antarctic Australasian Neotropical Oceanian Palearctic Indomalayan Nearctic

Population

Total population size is not known, it was recently collected in 2008.

Total Population Size

Minimum Population Size:

Maximum Population Size:

Habitat and Ecology

A small prostrate shrub that grows in clay, loam and sand, in scrub, mallee communities and woodland.

System

 Terrestrial Freshwater Marine

Movement pattern

 Nomadic Congregatory/Dispersive Migratory Altitudinally migrant

Crop Wild Relative

 Is the species a wild relative of a crop?

Growth Form	Definition
Shrub - small	Perennial shrub small (<1m) or dwarf shrub, also termed a Chamaephyte (<1m)

Threats

There are no direct threats to the species, however, according to the Biodiversity Assessment carried out for the Australian Natural Resources Atlas, the condition of the Esperance Plains region, where this species occurs, is fair to poor with a declining trend generally. Threatening processes to the area include vegetation clearing and fragmentation for agriculture, hydrological changes and salinity, feral predators and herbivores, grazing by stock and weeds. Many communities and species are localized in occurrence and vulnerable to fire events. In the Esperance region (ESP1 Fitzgerald subregion) approximately half of it has been cleared of native vegetation and agriculturally productive landscapes are now almost completely cleared (Comer et al. 2001). Despite the fact that this species is not susceptible to root-rot fungus (Groves et al. 2009) Phytophthora is changing the composition of coastal heath and scrub communities (Australian Natural Resources Atlas 2009). Most importantly, recent news reports warn that dieback root-disease is posed to tear through the Fitzgerald National Park, despite efforts from the Project Dieback to contain the spread of the pathogen (Bennet 2010). Dr. Chris Dunne from the Dieback Working Group (2009) reported that 'The research indicates that the impacts of the disease along the south-coast are likely to be even more significant than in the Jarrah forest where the disease was first observed to cause mass collapse of forest sites. Extreme weather events, such as summer rainfall linked to northern cyclone activities, can lead to a significant spread of dieback and a mass collapse in these native vegetation sites'. Some populations are also threatened by mining activities, the species is found in proposed site for an open pit Magnetite mine (Ecologia Environment 2008) and in exiting mines in Elverdton-Desmond area (Department of Industry and Resurces; Department of Mines and Petroleum).

	Past	Present	Future
1 Habitat Loss/Degradation (human induced)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.1 Agriculture	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.1.1 Crops	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.3 Extraction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.3.1 Mining	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.3.6 Groundwater extraction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.5 Invasive alien species (directly impacting habitat)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.6 Change in native species dynamics (directly impacting habitat)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.7 Fires	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7 Natural disasters	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.1 Drought	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.4 Wildfire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8 Changes in native species dynamics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.3 Prey/food base	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.5 Pathogens/parasites	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10 Human disturbance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10.5 Fire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Conservation Measures

Although most collections do not appear to be within protected areas, this species is known to occur within the Fitzgerald River National Park. It is listed as 2KC- in Briggs and Leigh (1995) a poorly known taxon with a geographic range less than 100 km² that is known to occur within a reserved but the population size is not known. It is also listed as Priority 3 in Smith (2010) taxa which are known from several populations, at least some of which are not believed to be under immediate threat.

	In Place	Needed
3 Research actions	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.4 Habitat status	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.5 Threats	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4 Habitat and site-based actions	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.4 Protected areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5 Species-based actions	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.5 Disease, pathogen, parasite management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.7 Ex situ conservation actions	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.7.2 Genome resource bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Countries of Occurrence

	PRESENCE						ORIGIN					
	Year Round	Breeding Season only	Non-breeding season only	Passage migrant	Possibly extinct	Extinct	Presence uncertain	Native	Introduced	Re-Introduced	Vagrant	Origin uncertain
Australia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Western Australia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

General Habitats

	Score	Description	Major Importance
3 Shrubland	1	Suitable	Unset
3.8 Shrubland - Mediterranean-type Shrubby Vegetation	1	Suitable	Unset

Species Utilisation

Species is not utilised at all

Trend in the level of wild offtake/harvest in relation to total wild population numbers over the last five years:

Trend in the amount of offtake/harvest produced through domestication/cultivation over the last five years:

CITES status: Not listed

IUCN Red Listing

Red List Assessment: (using 2001 IUCN system) Endangered (EN)

Red List Criteria: B1ab(iii)

Date Last Seen (only for EX, EW or Possibly EX species):

Is the species Possibly Extinct? Possibly Extinct Candidate?

Rationale for the Red List Assessment

A. bifaria is a small shrub with a restricted distribution in mallee of Western Australia between Ravensthorpe and Fitzgerald River. This shrub is only known from approximately six localities and mostly distributed outside protected areas in a highly fragmented habitat due to clearing for agriculture. The extent of occurrence warrants this species a listing of Endangered (EOO ~3,700 km²). Changes in fire regimes, increased salinity, mining activities and grazing pressure are threatening processes to this habitat. Furthermore, despite some populations known from the Fitzgerald National Park, there are concerns over the devastating effects that the pathogen *Phytophthora cinnamomi* might have on the vegetation of the area if the spread of this disease is not contained. If the current management measures to contain the spread are not successful there is a high risk that some populations will become extinct. It is recommended that monitoring of the habitat status, threats and pathogen are continued.

Reason(s) for Change in Red List Category from the Previous Assessment:

- Genuine Change
 - Genuine (recent)
 - Genuine (since first assessment)
- Nongenuine Change
 - New information
 - Taxonomy
 - Criteria Revisio
 - Other
 - Knowledge of Criteria
 - Incorrect data used previously
- No Change
 - Same category and criteria
 - Same category but change in criteria

Current Population Trend: Decreasing

Date of Assessment: 09/09/2010

Name(s) of the Assessor(s): Malcolm, P.

Evaluator(s):

Notes:

% population decline in the past:

Time period over which the past decline has been measured for applying Criterion A or C1 (in years or generations):

% population decline in the future:

Time period over which the future decline has been measured for applying Criterion A or C1 (in years or generations):

Number of Locations: 6

Severely Fragmented:

Number of Mature Individuals:

Bibliography

- A.E. Orchard and A.J.G. Wilson, 2001, Mimosaceae, Acacia part 1, Flora of Australia Volume 11A, , ABRS, Canberra
- Australian Natural Resources Atlas, 2009, Biodiversity Assessment - Esperance Plains 16 August 2010, , ,
- Bennett, M., 2010, Dieback devastates massive slice of WA bush, The West Australian, , ,
- Briggs, J.D. and Leigh, J.H., 1995, Rare or threatened Australian plants, M. Veroni, , Centre for Plant Biodiversity Research, Canberra
- Comer, S., Gilfillan, S., Grant, M., Barrett, S., Anderson, L., 2001, Esperance 1 (ESP1 - Fitzgerald subregion), A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002, Department of Conservation and Land Management, , ,
- Department of Industry and Resources, not known, Clearing Permit Decision Report No 1739/1, , ,
- Department of Mines and Petroleum, not known, Clearing Permit Decision Report Permit No 3045/3, , ,
- Dieback Working Group, 2009, Frightening Impact of Phytophthora Dieback on the South Coast, Dieback Working Group Newsletter, Dieback Working Group, , , Perth
- Ecologia Environment, 2008, Southdown Magnetite Proposal for Grande Resources Limited. Regional Flora and Vegetation Assessment, , ,
- Groves, E., Hollick, P., Hardy, G., McComb, J., 2009, Appendix 2 Western Australian Natives Susceptible to Phytophthora cinnamomi, , ,
- Maslin, B.R., 1995, Acacia Miscellany 13. Taxonomy of some Western Australian phyllocladinous and apollodinous taxa (Leguminosae: Mimosoideae), Nuytsia 2, 151-179, ,
- Smith, M.G., 2010, Declared Rare and Priority Flora List for Western Australia, 25 March 2010, , Dept of Environment and Conservation, Como, W.A,