

# Action Statement

Flora and Fauna Guarantee Act 1988

No. 195

## Rocky Chenopod Open-scrub

### Description and Distribution

Rocky Chenopod Open-scrub has an open canopy, approximately 10 m in height, which may be dominated by one or more of the following: Bull Mallee *Eucalyptus behriana*, Grey Box *E. microcarpa*, Yellow Gum *E. leucoxyton* and occasionally Red Box *E. polyanthemos*. The trees are stunted and often multi-stemmed. Dense thickets of Moonah *Melaleuca lanceolata* occur as localised patches. The shrubby understorey, usually sparse, is dominated by wattles (Golden Wattle *Acacia pycnantha* and Gold-dust Wattle *A. acinacea*) and chenopods (Fragrant Saltbush *Rhagodia parabolica* and Ruby Saltbush *Enchylaena tomentosa*). Scattered throughout the understorey are Shiny Cassinia *Cassinia longifolia* and Drooping Cassinia *C. arcuata*. The field layer is open, comprising a number of annual herbs, including Pink Purslane *Calandrinia calypttrata* and Australian Stonecrop *Crassula sieberiana* with drought-tolerant perennial herbs including Inland Pigface *Carpobrotus modestus*, Saloop Saltbush *Einadia hastata*, Nodding Saltbush *Einadia nutans* and Copperburrs *Sclerolaena* spp. Grasses are scattered throughout, and include spear-grasses *Austrostipa* spp. and Bristly Wallaby-grass *Austrodanthonia setacea*. Box Mistletoe *Amyema miquelii* is common in the canopy, and Small-leaved Clematis *Clematis microphylla* twines through the shrub layer. Mosses and lichens are abundant on the ground surface (Oates & Taranto 2001).

Based on the known sites, the community occurs on Tertiary and Ordovician sediments on sites that are dry due to climate, soils or topography, or a combination of these factors.

Where soil moisture or rainfall is higher, the community is replaced by woodland. The occurrence of Bull Mallee in this community at Long Forest between Bacchus Marsh and Melton is unusual, since the nearest occurrence of this species is in the Bendigo area, 100 km to the north-west. The Long Forest example of Rocky Chenopod Open-scrub has some affinities in floristics and fauna, especially birds (Hewish 1986) and ants (Anderson *et al.* 1991), with more arid areas north of the Great Dividing Range. There is limited information available for other examples.

The present and former extent of the community is unclear. The largest remnant, which includes those stands containing Bull Mallee, is found in the Long Forest Mallee, adjacent to Djerriwarrah and Coimadai Creeks, west of Melton. The community extends north of Long Forest into the southern Pyrete Ranges (Cheal *et al.* 1989, McDougall 1987). The community also occurs above the Plenty River at Janefield, Bundoora and Jacksons Creek between Sunbury and Diggers Rest (Cheal *et al.* 1989). Additional sites may support this community, including Goodman Creek near Bacchus Marsh; along Little River in the Brisbane Ranges (J.Yugovic *pers. comm.*); the southern end of the Lerderderg Ranges (LCC 1985), and Werribee River escarpment (McDougall 1987). A further possible site occurs at Yarra Bend, east of Melbourne (J. Yugovic *pers. comm.*).

## Current conservation status

Rocky Chenopod Open-scrub Community is listed as 'threatened' under the **Flora and Fauna Guarantee Act 1988**.

## Decline and threats

Rocky Chenopod Open-scrub is of extremely restricted distribution in Victoria. It is naturally rare because of its narrow ecological requirements,

and has been further depleted through residential development and agricultural activities. It has been estimated that as little as 200 ha remain (SAC 1994) all of which is close to Melbourne and potentially threatened by urban expansion. Two thirds of the largest remnant, at Long Forest, near Melton, has been cleared for farming or rural residential development since the 1960s (Myers *et al.* 1986). Most other remnants are small, and occur on private land. Threats to community quality and viability in these remnants include grazing by rabbits and domestic stock, fire, weed invasion and clearing.

## Grazing

Grazing, particularly by rabbits, inhibits recruitment of tree and understorey species. Grazing and burrowing by rabbits is a continuing threat to the community, especially to the understorey species and results in a change in community composition and structure as palatable understorey species are preferentially grazed. Soil disturbance caused by burrowing and digging by rabbits facilitates weed invasion and is a cause of soil erosion.

Grazing and trampling by domestic stock is likely to also damage adult plants, as well as increasing weed invasion through the spread of weed seeds and disturbance of topsoil. In Long Forest Nature Conservation Reserve the community is generally not subject to stock grazing, although some populations on private land are assumed to be.

## Roadside clearing

High quality stands occur in the road reserves along Long Forest Road and are subject to clearing or modification from installation of pipelines, driveways and other services, and to the effects of off-road vehicle traffic, rubbish dumping and horse riding. Roadside vegetation is also threatened by mowing, ripping, herbicide spraying, planting of introduced species in driveways (e.g. agapanthus, cacti and other succulents).

## Climatic and edaphic influences

The community occurs in a low rainfall area (500-600mm), on low nutrient and low moisture status

soils. Alteration in soil nutrients or moisture regime by increase or diversion of run-off, or by inputs of nutrients from sewerage or fertiliser may alter community composition by increasing weed levels and reducing the competitive advantage of drought tolerant species. Aerial applications of chemicals including fertiliser could potentially affect the community.

## Weeds

Detailed information on weed levels in the community is lacking. In the Long Forest, weed infestations have been fairly localised to old occupation sites (J. Leversha *pers. comm.*) and roadside edges, but these are now extending further into the reserve. The extensive edges of this remnant are susceptible to invasion by weed species, particularly exotic grasses, from the surrounding rural land. Little is known of the weed status of other remnants. Bridal Creeper is threatening the survival of some Velvet-bushes - *Lasiopetalum baueri*, particularly at the southern end of the reserve; *Galenia pubescens* var. *pubescens* is beginning to invade both disturbed and relatively undisturbed sections of the reserve; Serrated Tussock is appearing in many areas; Boxthorn and Prickly Pear remain problems.

## Fire

The effects of fire on the community are generally little known. Many of the understorey species such as the chenopods regenerate from seed after fire (D.Cheal *pers. comm.*), rather than resprouting. These species can be lost from the community when two or more fires occur in close succession, if plants that establish after the first fire have had insufficient time to produce seed before being killed by the subsequent fire. Most stands at Long Forest are believed to be unburnt for up to 100 years (Myers *et al.* 1986).

## Wider conservation issues

Managing areas for the conservation of Rocky Chenopod Open-scrub community will improve the conservation of nine flora species within the community that are 'rare' or 'threatened' in Victoria (DSE 2003a). These are: Brittle Greenhood *Pterostylis truncata*, Cane Spear-grass *Austrostipa breviglumis*, Heath Spear-grass *Austrostipa exilis*, Spurred Spear-grass *Austrostipa gibbosa*, Branching Groundsel *Senecio cunninghamii* var. *cunninghamii*, Fragrant Saltbush *Rhagodia parabolica*, Black Roly-poly *Sclerolaena muricata* var. *muricata*, Pale Turpentine Bush *Beyeria lechenaultii* var. *ledifolia*, Leafy Templetonia *Templetonia stenophylla*. Cane Spear-grass is also listed Nationally as a rare species (DSE 2003a).

The conservation of numerous species of vertebrate and invertebrate fauna will be enhanced by the management of the Rocky Chenopod Open-scrub community. The Brush-tailed Phascogale *Phascogale tapoatafa*, categorised as 'vulnerable' (DSE 2003b), has been recorded from the Long Forest Mallee. The Long Forest supports a rich ant fauna, including the bullant *Myrmecia* sp. 17, which is considered 'vulnerable' in Victoria (DSE 2003b) and *Myrmecia forceps*, which is the first record of this species from Victoria (Gell *et al.* 1988, Andersen *et al.* 1991).

Managing areas for the conservation of Rocky Chenopod Open-scrub community will contribute to the conservation of three species that are listed under the Flora and Fauna Guarantee Act; Brittle Greenhood, Brush-tailed Phascogale and *Myrmecia* sp. 17.

The Long Forest Mallee, the largest remnant of Rocky Chenopod Open-scrub, is of biogeographical interest. Apart from this locality, Bull Mallee is only found north of the Great Dividing Range, and there are numerous other flora species, birds and invertebrate fauna more characteristic of dry northern Victorian environments. There is speculation that Long Forest Mallee is a relict of a past drier climate (Myers *et al.* 1986). Long Forest is the type locality of Bull Mallee, which was first described by Baron von Mueller in 1853.

Long Forest Mallee was classified by the National Trust in 1974, because of its scientific and landscape values and was listed on the Register of the National Estate in 1990. It has been identified as a site of state significance (McDougall 1987, Cheal *et al.* 1989) and Long Forest Road has been designated a significant roadside by the Roadsides Conservation Committee (J. Leversha *pers. comm.*).

Management of areas for the conservation of Rocky Chenopod Open-scrub will result in better management of Long Forest Nature Conservation Reserve, with benefits for other vegetation communities and significant species, enhanced landscape and fauna habitat values, and improved soil and water conservation.

## Previous Management Action

### Survey

No specific surveys for Rocky Chenopod Open-scrub Woodland have been completed. Previous local and regional surveys have either been incomplete or have failed to accurately locate Rocky Chenopod Open-scrub Woodland occurrences. Friends Of Werribee Gorge and Long Forest Mallee (FOWG & LFM) mapped the Rocky Chenopod Open-scrub Woodland and other woodlands of Long Forest as part of a Botanical Guardians grant. The EVC mapping shows some

areas of Rocky Chenopod Open-scrub Woodland in Werribee Gorge and the Lerderderg State Park however, the EVC mapping need to be properly checked]

### Research

The ecology of the community at Long Forest was investigated by Myers *et al.* (1986). Following floristic surveys by N. Walsh, National Herbarium, the community and its distribution in the Melbourne region was described by Cheal *et al.* (1989). Other surveys from Long Forest include those of the vascular flora (Stajsic 1992), ants (Barnett, Buckingham and Monash University in Gell *et al.* 1988, Andersen *et al.* 1991), invertebrate fauna (Yen *et al.* 1994), vertebrate fauna (Gell *et al.* 1988) and birds (Hewish *et al.* 1986). Marilyn Hewish is compiling more recent information on the birds of Long Forest.

### Site Reservation and Site Management

Between 1973 and the present day, approximately 550 hectares, including Rocky Chenopod Open-scrub, has been reserved as Long Forest Nature Conservation Reserve, which has been managed by Parks Victoria since 1980. In 1987, the LCC recommended that Long Forest be reserved as a flora and fauna reserve, under the control of the Parks Victoria.

In October 2001, the Long Forest Nature Conservation Reserve Draft Management Plan was released and incorporates the existing Long Forest Flora Reserve and additional Crown land allotments.

Management actions at the Long Forest Nature Conservation Reserve have been undertaken by Parks Victoria with the assistance of the Friends of Werribee Gorge and Long Forest Mallee, and include:

- construction and maintenance of information displays, shelters and car parks.
- maintenance of walking trails
- propagation of flora species
- tree planting
- rabbit population survey and control
- fencing
- fire protection
- weed and rabbit burrow mapping
- weed control
- removal of rubbish

### Monitoring

No other monitoring has been undertaken in this community.

### Community Participation

The Friends of Werribee Gorge and Long Forest Mallee have produced a resource manual, which is a collection of information on the history, flora and fauna of the Long Forest Mallee, including species lists of non-vascular plants, vertebrate and invertebrate fauna from a number of sources (FWG & LFM 1987). A booklet about the Long Forest has also been produced by the group (FWG & LFM 1993).

### Conservation Objectives

#### Major Conservation Objective

To guarantee that the extent of Rocky Chenopod Open-scrub is maintained and that its condition is enhanced in the long-term.

#### Objectives of this Action Statement

1. Prevent further loss or modification of intact remnants of the community
2. Protect the existing stands of this community at long forest, by managing the identified threatening processes, and restoring degraded areas where possible
3. Increase the area of the reserve by identifying and acquiring key areas on private land that are of high flora and fauna habitat value, support populations of significant species, and/or can be used to consolidate blocks that are already reserved
4. Document the present extent and distribution of the community elsewhere, with a view to conserving any identified high quality examples
5. Increase the existing knowledge of species composition and ecological relationships in the community, including responses to grazing and fire.

#### Intended Management Action

*The intended management actions listed below are further elaborated in DSE's Actions for Biodiversity Conservation Database. Detailed information about the actions and locations, including priorities, is held in this system and will be provided annually to land managers and other authorities.*

#### Survey and assessment

1. Conduct surveys of all potential occurrences of Rocky Chenopod Open-scrub in spring.

*Responsibility: DSE (Biodiversity and Natural Resources Division)*

2. Refine the floristic community description of Rocky Chenopod Open-scrub.

*Responsibility: DSE (Biodiversity and Natural Resources Division)*

3. Assess threats and determine specific management requirements for each site, in consultation with landowners and managers.

*Responsibility: DSE (Port Phillip Region), Parks Victoria*

#### Planning

4. Provide information and advice, including maps, regarding the location and management of Rocky Chenopod Open-scrub sites to landholders, land managers and other authorities, especially Catchment Management Authorities and local government authorities.

*Responsibility: DSE (Port Phillip Region)*

5. Incorporate actions to protect the Rocky Chenopod Open-scrub into the Port Phillip Regional Catchment Strategy or its subordinate strategies via the relevant Biodiversity Action Plans. Implement these actions, according to priority, as resources become available, in conjunction with other agencies, community groups and landholders.

*Responsibility: Port Phillip Catchment Management Authority*

6. Incorporate actions to protect the Rocky Chenopod Open-scrub into management plans for key sites, including the Long Forest Nature Conservation Reserve and Lake Merrimu.

*Responsibility: Parks Victoria, Southern Rural Water*

7. Incorporate information regarding the location and management of Rocky Chenopod Open-scrub sites into local planning schemes, including environmental significance overlays, and apply the Victorian Planning Provisions so as to protect these sites.

*Responsibility: local government authorities*

8. Negotiate a formal agreement to protect the stands occurring on road reserves.

*Responsibility: DSE (Port Phillip Region), local government authorities, Vicroads*

9. Liaise with landowners and encourage appropriate management of remnants on private land including the use of conservation covenants. Assist landowners to access voluntary conservation programs and to apply for grants and incentives to assist in conservation management.

*Responsibility: DSE (Port Phillip Region)*

#### Habitat management

10. Undertake habitat management as determined by site assessments.

*Responsibility: land managers*

## Monitoring

11. Establish a monitoring program at key sites.

*Responsibility: DSE (Port Phillip Region), Parks Victoria*

## Community involvement

12. Consult with community groups such as Friends of Werribee Gorge and Long Forest Mallee, encourage continued involvement of volunteers in management planning, monitoring and works, and provide them with support through Botanic Guardians grants and other programs.

*Responsibility: DSE (Port Phillip Region), Parks Victoria*

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Further information can be obtained from Department of Sustainability and Environment Customer Service Centre on 136 186.

Flora and Fauna Guarantee Action Statements are available from the Department of Sustainability and Environment website: <http://www.dse.vic.gov.au>

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