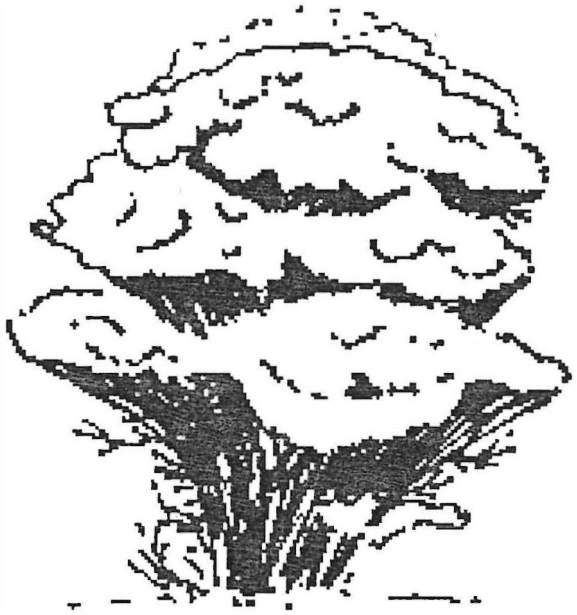
Management Guidelines for Remnant Vegetation Harvested for Cutflowers

Verticordia eriocephala



Illustrated by Vanessa Pribil

Written by Russell Smith and Liesl Rohl

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BACKGROUND INFORMATION

These guidelines have been produced for use by landowners who wish to sustainably manage their remnant vegetation for cutflower production. The guidelines will also assist government authorities to advise on proposals to manage remnant vegetation for cutflower production on private land.

It is noted that some techniques that may be used to improve production of flowers, foliage or seeds from remnant vegetation may have the potential to adversely affect the nature conservation values of that vegetation, and to contribute to soil and water degradation. Land managers are thus advised to carefully assess management practices and their potential impacts before undertaking bush management for flower production.

Eight of the most heavily harvested species, or species of particular concern, were chosen for the preparation of these guidelines:

Agonis sp., ("coarse tea-tree")
Agonis parviceps, ("fine tea-tree")
Banksia baxteri
B. coccinea
B. hookeriana
Dryandra formosa
Meeboldina scariosa formally Leptocarpus scariosus
Verticordia eriocephala.

The recommendations within these guidelines are based on information received from land owners (who are currently managing these species on their properties), and from survey, monitoring and research results conducted in other managed stands.

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These guidelines were written by Russell Smith, CALM Bunbury, and Liesl Rohl, Flora Industry Botanist, CALM Como.

Guidelines for the Sustainable Management of Remnant Vegetation Harvested for *Verticordia eriocephala* Cut-flowers

Russell Smith

Introduction

Verticordia eriocephala, called "cauliflower" by the industry, was the 13th most heavily exploited native species harvested for cut-flowers in 1993 with 395,000 stems being picked. The species is very popular in dried flower arrangements and is often dyed in various colours. Concern for the conservation status of *V. eriocephala* led to it being removed from the list of those flowers allowed to be harvested from Crown land in 1994. In 1993 about 60% was obtained from privately-owned remnant native vegetation and 8% from plantation grown crops. Although it is expected that the production from plantations will increase substantially in the future there have been a number of problems encountered in growing the species and it is expected that a major portion of the harvest will continue to come from remnant vegetation over the next decade.

The purpose of these management guidelines is to advise on the best methods to sustainably manage *V. eriocephala* and the remnant vegetation from which it is harvested to protect the conservation values of the remnant. There is abundant evidence of picking on Crown land resulting in plant deaths so there is a special need for management of *V. eriocephala* in remnant vegetation to be undertaken with care. The guidelines are based on interviews with farmers who have produced *V. eriocephala* from their remnant vegetation, and from research carried out by CALM, Agriculture WA and as a university research project.

Biology

Verticordia eriocephala is a seed regenerating perennial plant that is killed by fire. It is usually found in heath and shrubland vegetation on sandy soils in the wheatbelt and is found from near Eneabba across to Esperance. The mature plant is from 1 to 2 m tall and the most common branching pattern results in it having the appearance of a large cauliflower (ie. corymb-like) when it is in flower. Shoot growth occurs through winter and spring and flowers start to form during late spring. Harvesting occurs at the time of peak flowering in December. After a fire kills the adult plants regeneration occurs from seed stored in the soil. Under natural conditions in the absence of fire *V. eriocephala* plants may exceed the age of thirty years.

Fire

As mentioned above *V. eriocephala* is killed by fire and relies on a soil-stored seedbank for regeneration. First flowering occurs at age 3 or 4 years and the flowers have a relatively low seed-set (4 - 6%). Therefore the species is susceptible to local extinction if fires occur too frequently, that is before sufficient viable seed has been produced to replace the parent plants. The risk to the plant is heightened if a population has been heavily picked for cut-flowers. The evidence available suggests that vegetation containing *V. eriocephala* shold be burned at no less than 15 year intervals if it is being harvested for cut-flowers. Also, because the species relies on

its last season's seed for regeneration, no harvesting should take place in the year prior to burning.

Recommendations

- Remnant vegetation being managed for the production of cut-flowers from *V. eriocephala* should have an interval of at least 15 years between fires.

Harvesting

Several studies have shown that *V. eriocephala* can be damaged or even killed by over-harvesting. Harvesting all of the available flowers from a bush often results in deaths, this is especially so if no live shoots are left below the cut. After harvesting, it takes at least 4 years before the portion of the plant harvested produces another "commercial" flowering head.

Recommendations

- Harvesting should not occur until plants are 6 years old.
- No more than 20% of plants in any one population of *V. eriocephala* should be harvested in any year.
- No more than 50% of the stems suitable for picking should be taken from a plant in any year.
- Harvesting cuts should not take place below the lowest live shoots.
- Harvesting should not take place in the year before an area is to be burnt.

Chaining/ploughing

One method that has been used to rejuvenate stands of *V. eriocephala* in the absence of fire is chaining. The operation involves dragging a light chain between two tractors, at intervals of about 10 years. Reportedly most *V. eriocephala* are not affected by the operation but some species are temporarily or permanently removed by the operation. The rejuvenating effect appears to be due to the temporary reduction of competition for *V. eriocephala*. This technique has the disadvantage of perhaps permanently changing the composition of the vegetation and may also cause malformation of the stems of *V. eriocephala* .

Although several of the largest harvested stands of *V. eriocephala* on private property have established in abandoned paddocks following clearing operations 20 - 30 years ago this is not recommended as a management technique. When these stands established there were few weeds in the area; if ploughing of remnant heathland was carried out today there would be a rapid influx of weeds from adjacent paddocks.

Recommendation

- Chaining or ploughing should not be carried out in remnant vegetation being managed for the production of cut-flowers from from *V. eriocephala*.

Fencing

It is strongly recommended that remnant bushland is fenced off. Studies have shown that the general health of remnant vegetation declines if it is grazed. The seedlings of *Verticordia eriocephala* (and other species) are particularly vulnerable after fire.

Recommendation

- Remnant vegetation being managed for the production of cut-flowers from *V. eriocephala* should be fenced to exclude livestock and should not be grazed.

Disease

Verticordia eriocephala is inferred to be susceptible to soil-borne fungal diseases such as that caused by *Phytophthora cinnamomi* ("dieback"). Although much of its natural habitat may be too dry for the establishment of dieback disease, areas near the north and south coasts are vulnerable. Aerial cankers may be spread by infected secateurs, and these should be disinfected regularly. Wiping the blades with a rag soaked in methylated spirits is a quick way of disinfecting.

Recommendation

- Appropriate protective measures should be undertaken in remnant vegetation being managed for the production of cut-flowers from *V. eriocephala* to prevent the introduction or spread of plant diseases.

References

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