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Merging conservation with production in remnant bush

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Exports of cutflowers and foliage from Western Australia are now worth about $17 million a year. A third of this is picked from the bush, either on Crown Land or areas of remnant bush on private property. While the industry’s future lies in cultivation, bush picking is likely to remain important for some years. This can provide both extra income for farmers and benefit the environment – as long as care is taken.

Cultivation of native species began in the 1980s, with about 5 per cent of export cutflowers obtained from plantations. Their contribution has grown steadily in the last 10 years and now accounts for about 65 per cent of the value of exports. Of the bush-picked flowers and foliage, about two-thirds comes from Crown Land and one-third from private properties. Exports continue to be the mainstay of the industry.

Cultivation is the only long-term path for the industry. Planting in rows and using cloned plants makes management easier and allows a consistent result. However, many plant species still cannot be propagated or established easily. Others may not be commercially profitable in plantations so will continue to be harvested from bush areas.

For the moment, bush picking is important to achieve the range and quantity of native cutflowers and foliages demanded on international markets. However, it must be regulated to minimise its impact on the bush and ensure that harvesting is sustainable.

Regulations
Three government agencies oversee the flora industry in Western Australia: the Department of Conservation and Land Management (CALM), the Department of Agriculture and the Water Authority. CALM is responsible for the conservation and management of flora throughout Western Australia and has authority to impose controls on harvesting. It monitors the industry by issuing licences to people harvesting native flowers, foliage and seed.

Western Australia’s unique floriculture industry started about 40 years ago when enterprising individuals began picking wildflowers from areas of bush. More than 1000 plant species are now picked in the bush for cutflowers and foliage. The main plants harvested are Banksia, Stirlingia, Verticordia, Agonis (titree), Podocarpus (emu bush), Conospermum (smokebush), reeds and rushes. Bush picking occurs predominantly in the lower South-West around Albany and Manjimup and on the northern sandplains.

At first, it was easy to find good supplies of native flowers and foliages on Crown Land. However, it has become increasingly difficult as more people have entered the industry and demand for the product has grown. This has encouraged the establishment of wildflower plantations and the use of remnant vegetation on private property.

Using chemicals to control pests and diseases in remnant bush may have detrimental effects on beneficial organisms such as pollinators. Photo by courtesy of Trevor Walley, CALM.

Fencing is one of the simplest management techniques. It reduces grazing, introduction of weeds and soil compaction by stock, thus encouraging the growth of healthy bush. Photo by courtesy of Penny Hussey, CALM.
Bush management on private property

Some people have begun to manage areas of bush on private property in an attempt to make them more productive. It is anticipated that bush picking from private property will increase because of the need for some farmers to diversify their farming activities as well as the picking restrictions on Crown Land.

The low set-up costs make wildflower production through bush management on private property an attractive option. Sole (scarlet banksia) and B. baxteri (bird's nest banksia) is banned from Crown Land, and picking quotas are in place for Boronia megastigma (brown boronia).

Access to some Crown Land is restricted for quarantine reasons, and some areas are being converted into Nature Reserves and National Parks. This effectively reduces the area available for bush picking, putting greater pressure on the remaining areas of bush.

Bush management on private property

The Australian Nature Conservation Authority (ANCA) requires CALM to submit a continuing Flora Management Program. Under export regulations, any harvesting of native flora on Crown Land and private property has to be done in a manner that is sustainable for both the particular species and for the ecosystem.

The Department of Agriculture is responsible for administering the Soil and Land Conservation Act 1945. This requires farmers to submit a Notice of Intent to Clear Land to the Commissioner for Soil Conservation. The land is assessed to determine the likely impact of land degradation and the area's suitability for agricultural production.

The Water Authority of Western Australia regulates the clearing of bush within six catchment areas in the South-West to ensure that water quality is maintained in these areas.

The Government has already restricted bush harvesting of several wildflower species. This decision was based on declining plant numbers, evidence of over-harvesting and spread of diseases such as Phytophthora cinnamomi (dieback) and canker fungi. For example, harvesting of Banksia coccinea (scarlet banksia) and B. baxteri (bird's nest banksia) is banned from Crown Land, and picking quotas are in place for Boronia megastigma (brown boronia).

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and easy access for pickers which helps to reduce stress on the product, and land conservation are other benefits. Some pickers manage vegetation on other people’s properties as a form of ‘share-farming’. Areas of bush on private property are managed to improve the quality and to maintain or increase production of the flora. This gives a degree of control over the output but does not overcome many of the quality problems associated with bush-picked flowers which are caused by genetic variability.

Management techniques and consequences

Several techniques are being used on areas of remnant bush on private property to enhance the marketable yield of flowers and foliage and make picking easier. They can be used singly or in combination. Slashing before burning, for example, may give greater control over a fire and reduce its intensity.

The techniques used depend on the situation and the species being managed. Resprouter species such as titree regenerate from underground storage organs called lignotubers. Such plants can respond well to severe management techniques like slashing and burning. In contrast, seeder species such as Banksia baxteri and B. coccinea regenerate from seed only. This usually occurs after fire. They therefore require different management.

The long-term consequences of managing remnant bush for flower and foliage production is unknown. Some practices may not be sustainable and may result in plant deaths, degradation of soils and waterways or other adverse effects on the ecosystem. For example, burning is important for plant survival, but if fires are too frequent they may contribute to a decline in plant numbers. Over-picking may also reduce plant numbers if insufficient flowers are left to produce seeds.

Burning can be an important technique in managing remnant bush. It is used to encourage regeneration of seeder species and regrowth of resprouter species. Burning at the right time, intensity and frequency, can benefit the health of the bush.
Managing bush for flower picking, however, may be a means of preventing the clearing of private land if farmers can obtain some income from their remnant vegetation. If it is done responsibly, this may help to reduce many forms of land degradation, such as rising water-tables, salinity and soil erosion. It may also reduce the impact of harvesting flowers on Crown Land. Pickers on private property are more likely to look after the land and should fence the remnants to protect the plants from grazing and assist in controlling the spread of weeds.

The future

Production of quality flowers and foliage from well maintained plantations is the aim of the floriculture industry. However, plantations are not the solution to the immediate problems caused by restricted access to Crown Land. Managing bush on private property for both flowers and foliage is an interim measure until the current cultural difficulties are overcome and more plantations are established.

In the meantime, if management of bush areas is to continue, a responsible attitude about the well-being of the natural bush and the consequences of management practices is needed. For healthy bush areas to exist in the future, it is very important to merge conservation issues with those of commercial production.

The diversity of plants present in remnant bush is important as a genetic resource. Selection of plants which have superior traits (such as disease resistance, longer stems, bigger flowers) from these areas will be an ongoing process in the development of the floriculture industry.

Remnant bush is extremely important not only in reducing land degradation, but also as a habitat for our native flora and fauna. Commercial harvesting of flora can reduce the incidence of clearing while still allowing the land to provide a monetary return to its owners. Management techniques such as fencing to exclude stock, or weed and disease control, will help sustain areas of remnant vegetation. Thus, sustainable harvesting of flora will assist in conserving remnant bush and provide economic and landcare benefits. However, flower harvesting may adversely affect the local ecosystem, for example by reducing the build-up of a seed bank.

The Government of Western Australia, through CALM, the Department of Agriculture and the Water Authority, has an important role in regulating bush harvesting on private property to ensure sustainable management for the conservation of flora and soil and protection of water systems. Production and conservation issues must be balanced when considering management of native bush for cutflower and foliage production.

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Leptocarpus scariosus (velvet rush) is harvested from swampy areas of the South-West. Vast quantities are picked, dried and dyed for export markets.

Consequences of active management of remnant bush

Positive outcomes

- Maintains species composition
- Encourages regeneration of seeder species
- Encourages regrowth of resprouter species
- Prevents clearing of land
- Allows fire management
- Returns nutrients to ecosystem
- Prevents damage to vegetation by stock invasion
- Encourages flowering
- Removes introduced weeds
- Reduces spread of pests and diseases

Negative outcomes

- Alters species composition
- Limits regeneration and regrowth
- Contributes to eutrophication and salinity
- Increases risk of erosion
- Allows weed invasion
- Spreads soil and aerial diseases
- Reduces populations of beneficial organisms
- Alters plant form
- Redistributions nutrients
- Compacts the soil
- Removes the litter layer
- Hinders the movement of native fauna

Management techniques can be either beneficial or detrimental to the health of the bush depending on their frequency, intensity and the particular situation.