



Cut-flower Sustainable Management Plan 2018–22

Protected and threatened
plants in the cut-flower industry

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Published by:

Office of Environment and Heritage
59 Goulburn Street, Sydney NSW 2000
PO Box A290, Sydney South NSW 1232
Phone: +61 2 9995 5000 (switchboard)
Phone: 131 555 (environment information and publications requests)
Phone: 1300 361 967 (national parks, general environmental enquiries, and publications requests)
Fax: +61 2 9995 5999
TTY users: phone 133 677, then ask for 131 555
Speak and listen users: phone 1300 555 727, then ask for 131 555
Email: info@environment.nsw.gov.au
Website: www.environment.nsw.gov.au

Report pollution and environmental incidents
Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au
See also www.environment.nsw.gov.au

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Foreword

This *Cut-flower Sustainable Management Plan 2018–22* is intended to replace the *Protected and threatened plants in the cut-flower industry: sustainable management plan 2013–17*. The 2018-22 plan has been exhibited for public consultation in accordance with the *Biodiversity Conservation Act 2016* (NSW) and *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth).

Key changes from the 2013–17 Plan are outlined below.

New legislation

References to the *Biodiversity Conservation Act 2016* and Biodiversity Conservation Regulation 2017 have been inserted in place of references to former legislation including the *National Parks and Wildlife Act 1974* and *Threatened Species Conservation Act 1995*.

Monitoring of harvest sites

Inclusion of the provision of accurate (+/- 10 m) geographical co-ordinates for wild harvest licences as an alternative to photographic monitoring points. This is considered appropriate to enable long term monitoring of harvest sites (see section 3.6).

Discontinuation of picker licences

Under the 2013–17 plan, only six picker licences were issued. Four of these licences were for picking in state forests, which also requires a forest products licence from the Forestry Corporation of NSW.

The 2013–17 plan indicated an intention to discontinue picker licences, to promote sustainable harvesting on property owned by licensees and from artificially propagated plants. As a result, picker licences will not be available under the 2018–22 plan. Picker licences issued before 1 January 2018 will remain valid until their expiry date.

The 2018–22 plan provides that the harvesting species in Group 1 and 2 (equivalent to Group 2 and 3 in the 2013–17 plan) will continue to be permitted in state forests under a forest products licence, but a picker licence from the Office of Environment and Heritage (OEH) will not be required (see section 3.4.3).

OEH and Forestry Corporation will share data to monitor the impact of this change in licensing arrangements, and if required, revise this arrangement.

Tagging requirements for Waratahs

The tagging of waratah stems is no longer required under the 2018–22 plan, on the basis wild harvest is not permitted and tags are not required in other states.

Instead the 2018–22 plan requires licensed growers to include information on the origin of waratah flowers on invoices or consignment notes (see Appendix F).

Renumbering of groups in schedule of protected plants

In the 2013–17 plan the schedule of protected plant includes five groups numbered 1 to 5. There are currently no species listed in Group 1, as these species were removed from the schedule at the commencement of the 2013–17 plan on the basis they were not at risk from unsustainable harvesting.

Due to confusion caused by Group 1 containing no species, the 2018–22 plan includes four groups numbered 1 to 4. For example, Group 2 in the 2013–17 plan becomes Group 1 in the 2018–22 plan, etc. (see Appendix A).

Increased requirements for wild harvested *Actinotus* (flannel flowers)

In the 2013–17 plan, *Actinotus* spp. (flannel flowers) were a Group 3 species and did not require tags.

In view of concerns about illegally harvested flannel flowers, the 2018–22 plan has moved *Actinotus* spp. to the new Group 3 (the equivalent of Group 4 under the previous plan), so that National Parks and Wildlife Service (NPWS) tags are required for all wild harvested material (see Appendix G).

Summary

The Cut-flower Sustainable Management Plan 2018–22 continues the system to facilitate and regulate sustainably harvesting and producing material for the cut-flower industry in NSW. The tools and strategies in this plan support the long-term conservation of plant species used in the cut-flower industry, in both their natural habitat and as part of a viable cultivated native plants industry.

This plan details the status of protected plant under NSW legislation and the licensing and reporting requirements in the *Biodiversity and Conservation Act 2016* (BC Act). It is an important reference for the cut-flower industry and will also help make the public and the cut-flower industry more aware of the issues affecting the management and conservation of protected and threatened native plants used in the cut-flower industry.

This management plan has been prepared under the Biodiversity Conservation Regulation 2017 (BC Regulation), which provides for the preparation of management plans for protected native plants where the Environment Agency Head believes that harvesting native plants has the potential to adversely affect the conservation of a protected species or group.

The plan is based on four principles.

1. The maintenance of viable wild populations on private land is a priority.
2. Cooperative arrangements with the industry to promote cultivated or sustainable wild-harvested products in preference to picked products are encouraged.
3. The industry is to be self-sustaining and self-regulating through improved awareness of biodiversity issues and ecological sustainability.
4. Landholders should maintain native vegetation as a resource on their property. Harvesting may be possible if it can be conducted in a sustainable manner.

The Office of Environment and Heritage (OEH) will develop cooperative arrangements with the industry to promote cultivated or sustainable wild-harvested products in preference to picked products.

A specific aim of this plan is to encourage the commercial cultivation of plants from seed or other propagating material and, where appropriate, allow products harvested from such plants to be traded with minimum restrictions.

The plan supports sustainably harvesting some plant species from naturally occurring stands on private land, while at the same time acknowledging there are conservation and biodiversity benefits associated with maintaining this vegetation.

The plan provides for the harvest of cut-flower products where:

- material is to be harvested from plants cultivated for the purpose of producing cut-flower products (grower licence)
- material is to be harvested from naturally occurring stands of native vegetation on freehold lands of which the applicant or licensee is the owner, and where the harvest is at such a rate that the harvest is considered by OEH to be sustainable (wild harvest licence).

This plan targets high-risk products and areas in the cut-flower industry. In addition, it significantly reduces the regulatory burden on lower risk sectors of the industry through reduced tagging requirements and increased licence terms.

A streamlined process for harvest records and monitoring has been developed to assist licensees. There are also tools provided for assessing populations within harvest areas that will significantly assist licensees and regulators.

This management plan has been developed to meet the standards of the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) for a wildlife trade management plan relating to the regulation and monitoring of a class of native wildlife product proposed for export.

It supersedes the *Protected and threatened plants in the cut-flower industry: management plan 2013–2017* that was approved by the Australian Government in 2013.

Terms and definitions

Artificially propagated	A plant grown from seeds, cuttings, callus tissue, spores or other propagules under controlled conditions. The resulting plant is cultivated in soil or pots of growing media.
Authorised officer	A person authorised by the Environment Agency Head to exercise the powers of an authorised officer under the <i>Biodiversity Conservation Act 2016</i> .
BC Act	<i>Biodiversity Conservation Act 2016</i>
Commercial	Of or engaged in all forms of the purchase and sale of goods and services.
Cultivate	To plant, tend, harvest or improve plants.
Cut-flower	Any plant part that is sold in the commercial cut-flower industry, including flowers, stems, foliage, fruit and seed heads.
DoEE	The Commonwealth Department of the Environment and Energy
Destroy and destruction	The destruction of the plant with no subsequent use of the plant or its parts.
Environment Agency Head	Chief Executive of the Office of Environment and Heritage.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth).
Grower	A person or company licensed under the BC Act who propagates, cultivates or harvests material from artificial sources, protected or threatened native plants on land that they own or occupy. A grower may be either the land owner or occupier.
Harvest and harvesting	Removal of plants or plant parts for the cut-flower industry to extract chemicals for food or for other purposes. It is an inclusive term encompassing plants or parts of plants removed by wild harvesters and growers.
In the wild and from the wild	In relation to native plants, an independent state of natural liberty.
LLS Act	<i>Local Land Services Act 2013</i> .
Native plant	Any tree, shrub, fern, creeper, vine, palm or plant that is native to Australia, and includes the flower and any other part thereof.
NPWS	National Parks and Wildlife Service NSW, part of the Office of Environment and Heritage.
OEH	Office of Environment and Heritage, which includes the National Parks and Wildlife Service NSW.
Pick	To gather, take, cut, remove from the ground, destroy, poison, crush or injure the plant or any part of the plant.
Plant parts	Parts of a plant which are collected for purposes other than propagation, such as for cut-foliage or cut-flowers, but does not include divisions of plants which are taken for propagation.
Private land	Freehold land and land leased, held under licence or permit from a natural person, company or the Crown under a tenure that grants an exclusive right of occupancy, or which is in the course of alienation by the Crown under any Act.
Propagule	Any part of a plant capable of forming a new individual when separated from the original plant.

Protected plant	A species or other taxon listed in Schedule 6 of the BC Act. These species may be common in the wild but are listed to enable monitoring and regulation of activities associated with them.
Salvage	Removal of plants from an area that is being, or is to be, drastically altered by approved urban and rural development, forestry activities, mining or infrastructure development, where the plants would otherwise be destroyed.
Site	A single property held under individual title or a specific parcel of land managed by a public authority. For example, a specific state forest is a single site but may include several picking locations. However, State forests with different names, even though they may adjoin, or adjoining parcels of private land with separate titles are regarded as separate sites. In the case of roadside picking, a site is a five kilometre stretch of road.
Taxon (plural taxa)	Any living thing described by a genus name or any other name or description. Taxonomic units are formatted in a nested hierarchy (i.e. variety or cultivar, species, genus, family, order, class, phylum, kingdom).
Threatened species	A species listed in Schedule 1 of the BC Act.
Wild harvest	Any harvest from naturally occurring wild stands of protected or threatened plants on property of which the licensee is the owner.
Wild harvester	A person or company licensed under the BC Act (wild harvest licence) to harvest cut flowers and foliage from naturally occurring stands of native vegetation on property owned by the harvester.
WTMP	Wildlife Trade Management Plan approved under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .

1. Introduction

1.1 The conservation of native plants

To preserve biodiversity and conserve native plants, the Office of Environment and Heritage (OEH) works with industry, other agencies and the community to protect and manage the use of cut flowers and foliage from native plants through licensing and other credible regulatory tools.

OEH issues licences under the *Biodiversity Conservation Act 2016* (BC Act) to persons seeking to harvest and grow protected plant parts for commercial purposes.

This management plan describes the licensing framework and processes for regulating and monitoring protected plant species that are harvested from the wild or artificially propagated for the cut-flower industry.

It replaces the *Protected and threatened plants in the cut-flower industry: sustainable management plan 2013–17*.

1.2 Scope and general approaches

Native plants are used for many commercial and recreational purposes, including:

- cutting of flowers, foliage and other plant parts from both cultivated and wild plants for the cut-flower industry
- propagation of whole plants for retail or private use, or for bush regeneration and aesthetic planting
- collection of propagation material from wild plants
- use of native plants for traditional purposes by Aboriginal people
- bush tucker
- taking or growing of specimens for educational, scientific or medicinal purposes.

This plan is based on the following four principles.

1. The maintenance of viable wild populations on private land is a priority.
2. OEH will also encourage and develop cooperative arrangements with the industry to promote cultivated or sustainable wild harvested products in preference to picked products.
3. This management plan encourages the industry to be self-sustaining and self-regulating through improved awareness of biodiversity issues and ecological sustainability.
4. OEH will encourage landholders to maintain native vegetation on their property. Harvesting may be possible if it can be conducted in a sustainable manner.

This management plan outlines strategies to better regulate plant species which are picked, harvested and cultivated for the cut-flower industry. An outline of the relevant legislative framework is included. This document will also raise the awareness of the public and the cut-flower industry of the broader range of issues affecting the management and conservation of protected and threatened plants used in the cut-flower industry.

While primary responsibility for the sustainable management and harvest of material for the cut-flower industry falls to state and territory governments, the cut-flower industry has established significant markets overseas.

The regulation of exports from Australia is the responsibility of the Australian Government which seeks to ensure that plants that are internationally marketed by the cut-flower industry are subject to regulatory control and monitoring in the interests of species conservation.

Accordingly, this management plan is also designed to meet the requirements of the Australian Government through the Department of Environment and Energy (DoEE) which administers the Commonwealth's environmental laws. The Australian Government is also responsible for Australia's participation in a number of related international environmental agreements, such as the Convention on International Trade in Endangered Species (CITES), to which Australia is a signatory.

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the Federal Minister may approve this plan as meeting the requirements of a wildlife trade management plan (WTMP), which would result in a streamlined export process for the cut-flower industry.

If this plan is accepted by DoEE, the requirements for export applications will be reduced upon supplying a copy of the appropriate licences. Further information regarding export permits is available on [DoEE's website](#).

This management plan will be reviewed no later than 2022 or earlier if it is considered necessary to achieve sound conservation of protected and threatened plants in NSW.

1.3 Aims

The aims of this management plan are to:

- support the future development and maintenance of a sustainable cut-flower industry in NSW
- ensure that the continued existence of biologically viable populations of NSW endemic plants in the wild is not compromised by the cut-flower industry
- define the legislative and policy requirements relating to the commercial use of protected and threatened plant species in NSW
- allow the harvest of plant material from the wild on appropriate land tenures where the harvest can be demonstrated to be ecologically sustainable and conducted within the legislation and policies outlined in this document
- encourage the transition to harvesting material only from plants that are cultivated or managed for that purpose on private land.

1.4 Key risks

If not managed responsibly, the harvest and sale of plant material through the cut-flower industry can pose several risks to the conservation of native plants in situ.

OEH is responsible for ensuring that the harvest of native plant material for the floral industries is undertaken in a sustainable manner and, while not responsible for the management of the cut-flower industry per se, OEH acknowledges that illegal harvesting poses significant risks to legitimate participants in the industry. A collaborative approach to managing the cut-flower industry will best support the development of sustainable products and a sustainable industry.

1.4.1 Risk to conservation from harvesting activities

Harvesting of plant material from wild stands of native vegetation, if not appropriately managed, introduces a number of inherent risk factors. These include:

- direct threats to the survival of a population or species being harvested in the wild through the removal of plant material
- threats to the survival of a population or species other than that being harvested through the modification of habitat, food, shelter or other environmental factors
- increased likelihood of weed invasion in and around harvest areas
- harvesters and other machinery which may act as a vector for soil-borne or other pathogens
- decreased reproduction or recruitment of species or populations through the removal of flowering or other reproductive parts
- modification of abiotic (non-living) factors that influence a species or population.

1.4.2 Risks to the cut-flower and related industries from illegal harvesting activities

Illegal harvesting poses risks to industry as:

- illegal material decreases the viability of legitimate harvesters
- illegal material can compromise product quality in the market place
- illegal material can undermine consumer confidence in native plant products.

1.5 Strategies and objectives

The strategies and objectives of this management plan encompass:

- education and promotion
- regulation and enforcement
- fostering partnerships within the cut-flower and associated industries
- research.

1.5.1 Education

The education objectives are to:

- inform the public and cut-flower and associated industries about the need to conserve protected and threatened plants to maintain species and a sustainable industry
- ensure all participants in the supply chain are aware of the restrictions and conditions relating to the sale of protected or threatened plants
- encourage the use of artificially cultivated plants and managed wild plants on private land to meet the needs of the cut-flower industry
- encourage the retention of natural stands of vegetation on private property through sustainable harvest.

The education strategy will target all those in the cut-flower industry, including government agencies, wild harvesters, growers, wholesalers and retail operators, and the broader community.

The key messages to be delivered in the strategy are:

- NSW and Commonwealth legislation requires that the commercial use of protected and threatened plants is sustainable
- OEHL is adopting a risk-based approach to the regulation of the cut-flower industry

- specific limitations are required on high priority and commercially significant species including, but not limited to, Gymea lilies (*Doryanthes* spp.) and grass trees (*Xanthorrhoea* spp.) (see Appendices I and J)
- the cut-flower industry is encouraged to artificially cultivate and manage wild plants to meet its needs wherever possible
- landholders are encouraged to retain natural stands of vegetation on private property through the development of sustainable harvest
- all those involved in the supply chain have legal responsibilities when selling protected or threatened plants
- all parts of the cut-flower industry have a role to play in the development and maintenance of a sustainable industry
- the illegal harvest of native plants affects everyone.

Information will be delivered specifically to each focus group. Fact sheets and web-based material will be developed and updated to deal with general aspects of the systems and species referred to in this management plan.

Material will be available through industry bodies to ensure that it reaches as many as possible in the industry. OEH staff may also liaise directly with industry groups such as other government agencies, wild harvesters, growers, wholesalers and retail operators and the broader community to ensure that information is delivered effectively.

1.5.2 Regulation and enforcement

The objectives of this management plan are to:

- establish policy, systems and procedures for regulation and monitoring
- focus regulation and enforcement on those species assessed as being at highest risk in the industry
- license the picking of protected native and, in specific instances, threatened plants from the wild only if it can be demonstrated that picking them will not have a significant adverse effect on the survival of the species, its habitat and its ecological sustainability
- ensure that wild harvest does not increase threatening processes to protected or threatened species
- curtail the entry of illegally taken plants into the cut-flower industry
- develop a system of record keeping and/or tagging to track plants through the supply chain
- support those operating legitimately through regulation and enforcement.

There is a close link between the education strategy and effective licensing and compliance systems to control and monitor commercial harvesting from wild populations.

The maintenance of viable wild populations on private land will remain a priority. Effective monitoring and regulation systems have been developed to ensure compliance with legislative and policy requirements and to deal with those who operate outside the regulatory framework. The sustainable harvesting of plants from cultivated and managed natural stands by the property owner or occupier will be encouraged by simpler licensing and record-keeping systems.

Species not listed in Schedule 6 are not protected and are exempt from licensing and tagging requirements. Where possible, DoEE and OEH will ensure concurrence between the list of exempt species in the EPBC Act and the BC Act. Where there are inconsistencies, harvest and export will be dealt with on a case-by-case basis.

OEH will encourage wild harvesters to maintain native vegetation as a resource on their property. Harvesting may be possible if it can be conducted in a sustainable manner. There are many benefits in managing native vegetation in this way, including:

- maintaining biodiversity and vegetative cover
- protecting hydrological resources, such as the water table and soil moisture
- providing refuges for stock and native wildlife
- vegetation harvesting as a source of income
- aesthetic values
- acting as an environmental indicator of changes in biodiversity through ongoing monitoring.

It is recognised that industry-developed and supported best practice is often a more effective tool than government regulation. OEH will encourage the cooperation of wild harvesters, growers, wholesalers, retailers, exporters and the public to report suspected unlawful activities.

OEH will also encourage and develop cooperative arrangements with the industry to promote cultivated and sustainable wild harvested products. This management plan encourages the industry to be self-sustaining and self-regulating through improved awareness of biodiversity issues and ecological sustainability.

1.5.3 Research

The research objectives of this management plan are to:

- obtain data about protected and threatened taxa in NSW, including localities, population numbers and dynamics, response to disturbance and breeding potential, to establish the significance of wild harvest with particular focus on slow growing or high-demand species in the cut-flower industry
- refine existing sustainable harvest levels for key species
- develop sustainable harvest levels for additional species
- collect and collate harvest data
- set research priorities according to the conservation status of species
- regularly review research which may aid refinement of this plan
- build on existing information available on species harvested for the cut-flower industry.

OEH, through consultation with the Cut Flower Industry Consultative Committee (CFICC) and the scientific community, may establish research priorities that investigate the limitations and controls on the cut-flower industry in NSW. OEH, independently of the industry, will keep up-to-date on research which may have management implications for the industry.

2. Administrative and legislative issues

2.1 Commonwealth legislation

2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for the establishment of management arrangements for the protection, conservation and management of a plant or animal under a wildlife trade management plan (WTMP) where there is commercial harvesting of native species. Approval of a WTMP is given by the Federal Minister responsible for the environment and this is published in the Commonwealth Gazette. A WTMP can be developed by a state government or by other means under sections 303FO or 303FP of the EPBC Act. Species or products sourced under a WTMP are eligible for an export permit.

This management plan is designed to meet the requirements of a WTMP under section 303FO of the EPBC Act and applies to the commercial harvest and export of all native plants listed in Schedule 6 of the BC Act.

The licensing regime relating to grower licences under the BC Act is also designed to meet the requirements of an approved artificial propagation program under section 303FL of the EPBC Act. This means that plants listed in Appendix I of CITES or as threatened under the EPBC Act may be exported commercially, under permit from Department of the Environment and Energy (DoEE), by grower licensees.

2.1.2 Plant Breeders Rights Act 1994

This Act provides for the granting of Australia-wide proprietary rights to breeders of certain new varieties of plants and fungi.

It has no direct bearing on the commercial use of protected or threatened plants for the cut-flower industry in NSW.

2.2 NSW legislation

2.2.1 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) commenced on the 25 August 2017 and replaced the *Threatened Species Conservation Act 1995* and parts of the *National Parks and Wildlife Act 1974* relating to native plant and animal protection and licensing.

Under the BC Act, it is an offence to pick and sell plants that are threatened species, or protected plants, unless it is authorised by an exemption in the Act or regulation, or authorised under a licence issued by Office of Environment and Heritage (OEH).

Threatened species are listed in Schedule 1 of the BC Act and protected plants are listed in Schedule 6 of the BC Act. Schedule 6 is divided into plants used in the cut-flower industry (Part 1) and whole plants (Part 2).

Under the BC Act, there are no restrictions on the commercial use of plants not listed in Schedules 1, 2 or 6, or on the non-commercial use of protected plants listed in Schedule 6.

Under clause 2.31 of the BC Regulation, OEH may prepare management plans for commercial use of protected plants to ensure both their sustainable use and the preservation

of wild populations. When preparing a management plan, the following matters must be taken into consideration:

- ecology of the species
- sustainability of the proposed management regime
- Aboriginal cultural practices in relation to the species
- whether limits need to be placed on the number of licences that may be granted for a commercial activity if a licence is required for that activity
- whether it is necessary to monitor the commercial activity
- any other matters that the environment agency head considers relevant.

2.2.2 Local Land Service Act 2013

Part 5A of the *Local Land Services Act 2013* (LLS Act) regulates the management of native vegetation in rural lands. It commenced on 25 August 2017 and replaced the *Native Vegetation Act 2003*.

The LLS Act specifies native vegetation clearing activities that may be undertaken without approval ('allowable activities'), activities that may be undertaken in accordance with a land management code and activities that require approval.

2.2.3 Forestry Act 2012

This Act provides for timber harvesting on crown-timber lands, including state forests and timber reserves, and on private land in accordance with private native forestry property vegetation plans.

Under this management plan, the commercial harvesting of specified species of protected plant parts in state forests may be undertaken under a forest products licence issued by Forestry Corporation of NSW.

2.2.4 Plantations and Reafforestation Act 1999

This Act concerns the reafforestation of land and the establishment of timber and other forest plantations; it does not have any direct bearing on the commercial use of protected or threatened plants for the cut-flower industry, but growers with areas over 30 hectares, or growers with environmental plantings which exceed the exempted area of 30 hectares, require approval under the Act.

2.2.5 Environmental Planning and Assessment Act 1979

Some local environmental plans may include planting native species for the regulation of horticultural activities; growers need to check what is permissible in their area. If part of a cut-flower horticultural activity requires an environmental impact statement because it may significantly affect the environment – for example, building a dam – then impacts on threatened species would be considered.

2.2.6 Western Lands Act 1901

Holders of leases under this Act may have additional restrictions placed on growing and/or picking native vegetation on their lands.

2.3 Penalties

The BC Act has significantly increased penalties for offences relating to protected and threatened native plants, compared to those under the NPW Act.

The maximum penalties for the BC Act offences of picking or selling plants that are threatened species and protected plants are:

- For threatened species, other than vulnerable species, \$330,000 for individuals, \$1,650,000 for corporations and/or imprisonment for two years.
- For vulnerable species: \$88,000 for individuals or \$440,000 for corporations.
- For protected plants: \$22,000 for individuals or \$110,000 for corporations.

The Act also provides that additional penalties may apply to these offences, including:

- an additional daily penalty of up to 10% of the maximum penalty for each day the offence continues
- an additional penalty of up to 10% of the maximum penalty for each whole plant to which the offence relates.

These offences may also be dealt with by penalty notices (on-the-spot fines). In addition to monetary penalties, offenders may be required by OEH to undertake specified remediation work.

The Act also provides that OEH may cancel or suspend licences and enables the licensee to appeal to the Land and Environment Court.

The Regulation applies penalties for non-compliance with requirements relating to the tagging of protected plants and the keeping or production of records relating to dealing in protected plants. The maximum penalty is \$5500.

3. General management procedures

3.1 Licence types and licensing requirements

This management plan will be administered within the provisions of *Biodiversity Conservation Act 2016* (BC Act) to regulate and monitor the commercial use of protected and threatened plants in NSW.

Licensing of the cut-flower industry will be in two categories: wild harvest and grower licences. These are outlined below with details in Appendices B to D.

Licences are not required to pick protected plants that grow on private property for non-commercial purposes if picking is undertaken with the landholder's permission (a private person or company in the case of freehold land) as this plan refers only to commercial use.

3.1.1 Wild harvest licence

A wild harvest licence may be issued under the BC Act to the freehold owner of a property to harvest from naturally occurring stands of protected plants on their property.

A wild harvest licence may permit the harvest of all species listed in Groups 1, 2 & 3 of Part 1 of BC Act Schedule 6.

No species in Group 4 and no threatened species listed under BC Act Schedule 1 may be taken under a wild harvest licence.

If an individual intends to harvest from naturally occurring stands of protected plants on property that they do not own, a wild harvest licence may be applied for with the property owner as licensee and the individual listed as an associate on the licence. The property owner (i.e. the licensee) must be made aware that they are responsible for all liability and reporting requirements associated with the licence.

Harvest of species in Groups 1 & 2 may be undertaken in state forests under a Forest Products Licence issued by Forestry Corporation of NSW without the need for a BC Act licence (see Section 3.4.3).

For further detail on wild harvest licence requirements, including tagging, general conditions and how to apply, refer to Appendix B.

3.1.2 Grower licence

A grower licence may be issued under the BC Act for the growing and harvest of artificially cultivated species listed in all Groups of Part 1 of BC Act Schedule 6, which includes both protected and threatened species.

For further detail on grower licence requirements, including tagging, general conditions and how to apply, refer to Appendix C.

3.1.3 Sellers' obligations

The supply of illegally harvested plant material entering the market can jeopardise wild populations and directly impact on the economic position of legal participants in the industry. Those who on-sell protected and threatened plants do not require a licence from the Office of Environment and Heritage (OEH). Sellers, either wholesalers or retailers, are required to obtain plants from NSW licensed wild harvesters or growers, or from other legitimate sources.

It is in the best interests of all in the industry to ensure that illegally obtained material does not enter the market. Therefore, an authorised officer who has reasonable suspicion that plants have not been obtained legally may request that the material be delivered up or the product may be seized, and a penalty notice may be issued or other legal action instigated.

3.1.4 Review of Schedule 6

Proposed changes to Schedule 6 may be identified following the annual review of licence and harvest data as per the DoEE reporting requirements (section 4.5) or as directed by the Environment Agency Head should significant changes be identified in the industry.

Any proposed changes to Schedule 6 will be subject to relevant stakeholder consultation and specialist advice before being submitted to DoEE for public exhibition and approval. Subject to approval by OEH and DoEE, Schedule 6 may be amended by way of an amendment to the BC Regulation.

The review of threatened species (listed in Schedules 1 and 2) is undertaken by the NSW Threatened Species Scientific Committee as a separate process. Review and comparison of species listed in both Schedules 1 and 6 will be undertaken as part of the review of this management plan, next scheduled for 2022 or earlier if considered necessary.

3.1.5 Groups of species and licensing or tagging requirements

Part 1 of Schedule 6 is split into four groups that are subject to different licensing and tagging requirements. The allocation of species to these groups has been undertaken based on current industry knowledge, information collected by OEH and through the use of risk-assessment tools.

Higher numbered groups are subject to more stringent regulation by OEH as they are considered to be of greater risk from illegal harvest activities. This strategy enables OEH to better direct compliance and regulation activities to those species where illegal harvest operations may impact on the species conservation in the wild.

Part 1 Group 1 – Species subject to licensing unless on state forest property. National Parks and Wildlife Service (NPWS) tags are not required

This is a large group as these species are commonly harvested from the wild, which may pose a conservation risk to species in this group and will continue to be monitored. These species are considered to be at low to moderate risk. Harvesting is being monitored to ensure that it is sustainable.

- A wild harvest or grower licence is required except for harvesting in state forests under a Forest Products Licence issued by the Forestry Corporation.
- No tags are required; however, growers are encouraged to use grower tags for species in this group.
- A Department of the Environment and Energy (DoEE) export permit will be required unless the species is in the DoEE List of Exempt Native Species.
- OEH may impose restrictions on the quantities that can be harvested except for material produced under a grower licence.
- Harvest monitoring and record keeping is required.

Part 1 Group 2 – Species subject to licensing unless on state forest property. National Parks and Wildlife Service (NPWS) tags are not required

These species are commonly harvested from the wild and are in moderate commercial demand. For many species, the cut-flower industry is establishing artificially propagated stocks which are not yet available in sufficient commercial quality and quantity. A licence is required (wild harvest or grower).

- A wild harvest or grower licence is required except for harvesting in state forests under a Forest Products Licence issued by the Forestry Corporation.
- No tags are required; however, growers are encouraged to use grower tags for species within this group.
- A DoEE export permit will be required unless the species is in the DoEE List of Exempt Native Species.
- OEH may impose restrictions on the quantities that can be harvested except for material produced under a grower licence.
- Harvest monitoring and record keeping is required.

Part 1 Group 3 – Species subject to licensing. NPWS tags are required

These species are commonly harvested from the wild and are in high commercial demand. Harvesting is likely to increase the conservation risks to these species (Appendices F–J) which are of greatest concern to OEH and which will be regulated and monitored closely.

- A wild harvest or grower licence is required.
- Licences will be subject to tagging requirements.
- NPWS tags (section 4.1.1) are required for all material. Grower tags may be used in addition to but not instead of NPWS tags.
- A DoEE export permit will be required unless the species is in the DoEE List of Exempt Native Species.
- OEH may impose restrictions on the quantities that can be harvested except for material produced under a grower licence.
- Harvest monitoring and record keeping is required.

Part 1 Group 4– Species for which only grower licences may be issued

Species in this group are considered to be at high risk of exploitation, and in general can only be cultivated under a grower licence. It is envisaged that they will eventually be cultivated in sufficient quantity and quality for commercial use.

- Unless otherwise stated, only grower licences will be issued as these species are either rare in the wild or over picked, causing local species extinction or damage to the habitat.
- Licences will be subject to tagging requirements.
- Grower tags will be required. In some circumstances cultivated material may be exempt from tagging where it can be clearly identified as cultivated. This may be through other labelling strategies, by the propagation of cultivars or specific exemptions for certain species (such as Telopea species) – see Appendix F for further detail.
- NPWS tags may be issued only where the grower is unable to produce their own tags. These tags must include the phrase ‘plantation grown’ or similar.
- A DoEE export permit will be required unless the species is in the List of Exempt Native Species.

3.1.6 Grower or wild harvest plants

Despite the definition of artificial propagation in this document, OEH recognises that in some cases it is difficult to differentiate between artificially propagated and wild harvested plants.

This confusion arises as some species grow best in situ, relying on prevailing conditions such as soil moisture and acidity; for example, Christmas bells (*Blandfordia* spp.).

For a proposal to grow in situ to be considered, the applicant must demonstrate that the natural site is subject to replanting, seed sowing or similar propagation techniques and is in fact operated as an in situ artificial propagation operation.

In general, a written site description, photographs and other supporting information, including an outline of horticultural practices, must be provided in an application.

This issue is important given that many species may only be harvested under a grower licence, particularly threatened species.

3.2 Sustainable harvesting

For an authorised officer to issue a licence for the wild harvest of a protected species, the applicant must demonstrate that harvest can be sustainable. This excludes plants propagated under a grower licence.

- This requirement will apply for every species for which a wild harvest licence is applied for after the adoption of this plan, even if the applicant has harvested previously.
- Without affecting the statement above, this requirement will apply only to initial applications. Where a wild harvester seeks to reapply for a licence for land in a previous application, OEH may request additional information to assess the application.
- This applies to the harvest of plants for both export and domestic markets.

The applicant may need to demonstrate or comply with some or all of the following:

- skills to accurately identify the target plant, monitor and record levels of harvest and the status of the harvested population, or access to appropriately qualified expertise to record information for submission to OEH
- acceptable information on the disturbance history of proposed harvest sites (for example, time since last fire), plant densities, population structure (adults, juveniles or seedlings), plant longevity and survival
- recording of basic plant data such as number of stems per plant, flower numbers or any other information required by an authorised officer or this management plan
- assessment of the impact of the proposed harvest on the wild population, such as fauna and soil stability, with the assessment supported and approved by OEH
- estimates on timing and frequency of flowering and fruiting, plant fecundity (magnitude of seed production), processes that control seedling recruitment, survival and growth of new individuals, and rate of growth and recruitment levels
- assessment of the legal conservation status in NSW of the species to be harvested
- the potential to deal with damage mitigation such as the construction of sediment traps to catch increased sediment run-off as a result of harvesting
- the potential to mitigate against issues such as weed and pathogen invasion.

In some circumstances, the applicant will need the advice of an independent expert. This helps determine the sustainability of a proposed harvest where there is an application to harvest a species that has not previously been harvested, or if it is unclear how harvesting

will affect the species and its ecological community. The advice provided will be considered by the authorised officer prior to issuing a licence.

Harvesting will also need to comply with any relevant NSW codes of practice and national standards.

3.3 Determining levels of harvest

Knowledge of the populations, numbers and reproductive biology of protected and threatened plants in NSW is, for many species, extremely limited. More information about ecological sustainability will be provided through research and the collation of information from applications, inspections and returns as required in this management plan. This information will enable OEH, where necessary, to adjust harvest levels to ensure harvest sustainability.

The species composition of a site will be influenced by its physical environment (including geology and drainage), size, recent rainfall or drought conditions and by its disturbance (including fire and treefall) history. Determining a sustainable rate of harvest depends on suitable data being provided; a harvesting plan may incorporate data on fecundity and growth rate.

The harvesting of plant parts, particularly foliage, can remove nutrients that would otherwise be recycled in the plant community. Overharvesting may lead to changes in soil nutrients, which may jeopardise sustainable harvesting. Many plant parts that are removed are food sources for native fauna.

The removal of reproductive material from plant populations, such as flowers, fruits and seeds, can lead to a reduction in genetic diversity and fitness, particularly in species that have long generation times (for example, *Xanthorrhoea* spp.). Reduced genetic diversity may reduce the capacity of a species to adapt to changes in environmental conditions.

3.3.1 Population estimate

Applicants for a wild harvest licence are encouraged to develop a plan of the proposed harvest which describes the site, including details such as access, approximate quantities of the target species in the harvest area and, if possible, the capacity for the population to recover from harvesting.

An applicant for a wild harvest licence must include an estimate of the population of the target species on the property and within the harvest area with the application.

The NPWS area office will, where possible, conduct a site inspection prior to first issuing a wild harvest or grower licence.

The following is the minimum information that must be supplied.

- Four plots, each 20 m × 20 m, must be established within the proposed harvest area. An assessing officer may request that additional plots be established.
- All plants of the target species available for harvest must be counted. This count excludes individuals of the species that would not produce material suitable for harvest within the licence period. For species that produce multiple stems (such as *Actinotus* spp.), stems rather than the number of individuals should be counted.
- The number of plants in each plot should be multiplied by 25 to give a number per hectare.
- The number of plants per hectare from each plot can then be added and divided by four to give an average number per hectare. This estimate will be used to set the harvest level.

An example of the data required is in Appendix J.

3.3.2 General harvest levels

There are various ways to limit the impact of harvesting on particular species and to manage an area for long-term sustainability.

Rotational harvesting can assist in ensuring that areas are harvested periodically and not too frequently so that they can maintain a healthy seedbank (Appendix J).

OEH may impose licence conditions that reduce the impact of harvesting on threatened species:

- A wild harvester may not remove more than 10% of the flowers, fronds or other parts from any one plant, or more than 1% of the plant.
- Where the entire flower or leaf production is contained in one or a few structures, such as grass trees (*Xanthorrhoea* spp.) and Gynea lilies (*Doryanthes* spp.), plant parts may only be harvested from a maximum of 20% of the reproductive individuals in the identified harvest area in any calendar year or licence period. Limits may be placed on the number of plants from which material may be removed. If licensed wild harvesters can establish through scientific research that more than 10% of the flowers or more than 1% of the whole plant can be harvested sustainably, they may be permitted to harvest accordingly. These new levels should be included in future harvest levels.
- No limits will be set on material produced under a grower licence.

Where data on the level of harvest of a species give rise to concerns about sustainability, OEH may impose a quota on, or otherwise restrict the level of wild harvest. Restrictions may be varied according to criteria such as rainfall, effects of fire and other land-use considerations. In extreme cases, there may be a complete ban on harvesting a species for a specified period or area.

Where there is any doubt about the advisability of harvesting or the level of harvest, OEH must take a precautionary approach, with the integrity of the local population the foremost consideration.

If OEH has concerns about the sustainability of harvest or if a previously unharvested species is proposed to be harvested, the licence may be refused. In this case the applicant may seek an independent review by an expert in the ecology of the species on the effects of harvest. This advice will be considered by the OEH prior to issuing any licence.

3.3.3 Fire impacts

Fire affects many environments from which plants may be harvested. Fire frequency and intensity determines the recovery rate of affected vegetation and may dictate the pattern of harvesting. The impact of fire must be considered when assessing the sustainability of a proposed harvest.

3.4 Location of harvest

3.4.1 Private and leasehold land

Most growers and wild harvesters in the cut-flower industry harvest from private land.

3.4.2 NPWS estate

A consent under the National Parks and Wildlife Regulation 2009 to pick protected plants from the NPWS estate will be considered only if it assists in establishing a commercial crop, where propagules are not available, or are very limited from other sources, and where establishing a cultivated population may contribute to the conservation of a species. Unless otherwise specified, a fee of \$200 will apply for any consent granted. A relevant biodiversity conservation licence for scientific or conservation purposes would be required to pick any threatened species.

3.4.3 State forests

Sections of the cut-flower industry depends on picking in state forests, particularly for the filler trade.

Section 44 (8) of the *Forestry Act 2012* permits the Forestry Corporation of NSW to issue a licence for the harvesting of protected or threatened plants in a state forest provided the harvesting is undertaken in accordance with this management plan.

To reduce the administrative burden on persons harvesting in state forests, a BC Act licence is not required for harvesting species in Groups 1 and 2 of Part 1 of Schedule 6 in accordance with a Forest Products Licence. The Forestry Corporation will provide data on material harvested under Forest Products Licences to OEH, for inclusion in data reports for this management plan.

3.5 Weeds and soil pathogens

Harvesting of plants in the wild may contribute to the transfer of weeds or soil pathogens between localities. Precautions, such as cleaning tools and washing shoes between visits to different sites, must be taken to prevent the spread of weeds and especially pathogens, such as *Phytophthora* spp.

OEH reserves the right to cease issuing licences or withdraw existing licences for harvesting on land affected by soil pathogens or weeds.

3.6 Monitoring

As indicated in section 3.2, it is a requirement for any applicant for a wild harvest licence to establish monitoring plots to determine harvesting is sustainable.

Disturbance history, plant density, survival, growth, fecundity and recruitment are all key factors in assessing the viability of a population.

3.6.1 Establishment of monitoring points

Wild harvesters must establish monitoring plots to help them monitor harvest sustainability, and provide harvest data to OEH, which can be analysed to monitor harvesting levels. Monitoring is not required for activities conducted under a grower licence.

Licensees must clearly identify the locations where harvest is undertaken. This may be achieved by either:

1. Establishment of a clearly defined photographic point which must be marked in the field by a permanent marker and tagged with the licensee's licence number. The photographic point must be identified clearly on the plan of the site submitted with the licence application. A photograph must be taken from this point immediately before and

after harvest. Photographs, clearly labelled with the date of the photograph, the licence number and the name of both the licensee and the photographer, covering a representative area of the harvest must be forwarded at the completion of harvest to the OEH area office which issued the licence. Digital photographs are acceptable.

2. Providing accurate (+/- 10 m) geographical coordinates of harvest sites. The boundaries of harvest sites must also be mapped and provided to OEH when harvest return sheets are submitted.

A licence renewal application will not be granted until this condition has been met. Photographic monitoring is not required for activities conducted under a grower licence.

3.6.2 Targeted monitoring

To maximise the effectiveness of monitoring and research programs and to reduce compliance on those in the industry, OEH has identified key targets for monitoring and research (see section 3.8).

It is expected that those harvesting on their own property (wild harvesters) will harvest sustainably as it is in their interest to ensure the perpetuation of the product. This, combined with the fixed location of wild harvesting, facilitates monitoring. Landholders licensed to wild harvest are required to provide harvest data to OEH which can be analysed to monitor harvesting on private land.

The requirements that may be imposed for monitoring of species under each group in Schedule 6 Part 1 are outlined below. Monitoring applies to wild harvesters (monitoring is not required for growers), and may apply to licences for both export and domestic markets.

Group 1

Species in this group are either slow growing or have a large percentage of material removed during harvest. It is a minimum requirement that licensees who harvest species in this group will establish a photographic point for monitoring (section 3.6.1) or provide accurate geographic coordinates.

In addition, OEH may impose any or all of the requirements in section 3.2 on any wild harvest licence.

Group 2

These species are commonly harvested in the wild, are in high demand and a large percentage of the plant material may be removed. Wild harvest and grower licences, may be issued.

Licensees must, as a minimum requirement, establish a fixed photographic point (section 3.6.1) or provide accurate geographic coordinates. OEH may impose any or all of the requirements in section 3.2 on any wild harvest licensee.

In consultation with the Cut Flower Industry Consultative Committee (CFICC), OEH will identify species for research on harvesting and may collaborate with an industry partner or tertiary institution; the involvement of wild harvesters and growers will be welcome.

Group 3

Grower and wild harvest licences are issued for species in this group, which has a higher level of regulation than Group 1 to 2. Harvest reports, including photographic monitoring or accurate geographic coordinates, must be submitted as a requirement of licence conditions.

Species in this group require NPWS or grower tags. NPWS tags will improve data collection and harvest monitoring.

Group 4

Only grower licences will be issued. No harvest levels are set.

3.6.3 Data management

OEH will undertake the collation of all plant licensing data on a yearly basis. These data will include licence applications and data supplied on harvest returns, and will facilitate the evaluation of harvest levels and licensing strategies. Records provided to OEH by wild harvesters will be confidential. Aggregated data will be published in annual reports.

3.7 Industry and institutions

OEH will encourage and support research by government authorities, institutions, the nursery industry and individuals, and may undertake or commission research, with priority given to threatened species. OEH is committed, through the provisions of the BC Act, to priority actions for species at risk, including recovery and threat abatement planning.

This management plan will not curtail the wild picking of native plants or plant parts for scientific research which may cover taxonomy, reproductive biology, species identification for environmental or biodiversity surveys, and chemical composition, and which has been appropriately licensed by OEH with a scientific licence.

3.8 Research for future management

Knowledge of the populations, numbers and reproductive biology of protected and threatened plants in NSW is limited, and consequently OEH adopts a conservative approach to harvesting.

OEH is satisfied this plan will manage the threat to the conservation of any species as a consequence of its commercial use. There are, however, gaps in scientific knowledge of some protected and threatened species that are used commercially. The following areas have been identified for further research:

- Population estimates and distributions of all protected and threatened plants to allow the scientific determination of key habitats and ecologically sustainable levels of harvesting.
- Reproductive biology of priority species to establish recruitment to determine the effect of harvesting or to establish management practices, such as prescribed fires.
- The significance of repetitive harvesting of cut flowers from single plants, such as *Xanthorrhoea* spp. which have been protected only since 2002, which requires ongoing monitoring. It is a high priority for OEH to assess the sustainability of traditional harvesting.

3.9 Education and training

This management plan is both an information resource and a training tool and provides detailed information on OEH requirements for conservation and compliance.

For the cut-flower industry and the community, this plan communicates OEH's management strategies. OEH will develop fact sheets in consultation with the cut-flower industry. These

will summarise legislative requirements, explain the biodiversity value of native plants, particularly threatened species, and seek public cooperation in native plant conservation.

- OEH will continue to promote conservation agreements with private landholders to conserve native plant populations. These agreements are voluntary but binding.
- OEH will make participants in the cut-flower industry aware of their responsibilities under the BC Act through this management plan.
- OEH will liaise with other industry stakeholders to identify and, where necessary, develop educational and training material for specific industry sectors.
- To facilitate consistency between Australian states and territories OEH will, where appropriate, include details of any relevant national code or guideline into its management plans.

4. General tagging, assessment, monitoring and compliance

Specific details relating to licensing requirements for each licence type are in Appendices B to D.

4.1 Tagging requirements

Tagging may be a label, sticker, sleeve or markings on a plant container. Tagging is an effective way to ensure continuity of possession once protected plants are sold, particularly when they are on-sold many times. Effective tagging can identify whether plants have been legally picked and is a useful guide for consumers that permits them to choose between bush-picked and cultivated plants.

As tagging is expensive and time consuming, plants that require tagging are restricted to species at high conservation risk, in high demand or associated with illegal picking (Groups 3 and 4).

For all Group 1 and 2 plants:

- tagging is not required
- wild harvesters and growers are required to keep records and receipts of sales.

For all Group 3 plants:

- NPWS tags (section 4.1.1) are required for all material
- a grower licensee who harvests species from artificially cultivated stock may attach a grower tag in addition to a NPWS tag
- *Doryanthes excelsa* and *Xanthorrhoea* spp. flower spike stems require one NPWS tag per stem.

For all Group 4 plants:

- grower tags are required.

Relatively few NPWS tags will be issued for Group 4 species. No wild harvest licences will be issued as these species are either rare in the wild or in very high demand in the cut-flower industry. Many species in Group 4 have a market value upon reaching maturity, where they are propagated successfully and the demand for plants from the wild is minimal, putting species in the wild at low risk.

All threatened species, not otherwise listed in Schedule 1 of the BC Act and harvested by grower licensees from artificially cultivated plants, will require grower tags. NPWS tags will not be issued for threatened plants as no wild harvest licences will be issued to harvest them; however, where the licensee cannot produce a grower tag OEH may issue one.

It is the responsibility of the licensee to ensure that tags are affixed to bunches, individual stems or their containers before being offered for sale.

Tags attached legally to protected and threatened plants from another state will have the same legal status as NPWS or grower tags in NSW.

The wholesaler may remove tags if a bunch is split for sale to a retailer or an end user. In this case tags must either be destroyed by the end user or returned to OEH for destruction. Tags cannot be reused.

4.1.1 NPWS tags

These are tags produced by OEH, prefixed and numbered so that the origin of plant parts can be traced. Colour-coded tags may be produced by OEH for different growing seasons or plant species. Other details as required can be included on the tag to assist identification of plants.

Every NPWS tag will include the OEH/NPWS logo and 'bush picked', 'plantation grown' or other descriptions of origin.

Tags can be issued to any licensee for species that require tags and will be issued either upon granting of the licence or on request throughout the growing season.

To minimise the likelihood that tags can be reused or traded on species for which they were not issued, species details may be included on tags. Licensees who require tags may either pay for, and receive all the tags allocated to their licence at the start of the season, or be issued with tags on request throughout the season so that losses for overestimating production can be minimised.

OEH will charge a fee for each tag; this fee may be scaled to encourage wild harvesters and growers. Information about tags and costs can be found on the OEH website as costs may vary from time to time.

Wild harvesters are to affix NPWS tags on bunches or individual stems at the picking site or packing shed. Tags should be affixed to all harvested material, even if it is not sold.

A wild harvester or grower may apply to OEH to replace tags that have been lost or damaged, but satisfactory evidence must be produced before tags are re-allocated.

If tags are not used within the life of the tag they must be returned to OEH and may be exchanged for valid tags. OEH may charge a fee to cover costs, but there will be no additional processing fee.

4.1.2 Grower tags

These tags can only be used by grower licensees who harvest protected or threatened plants from artificially cultivated plants. They are printed or written by either the grower or a professional industry association.

The term 'tag' should not confuse growers into thinking that any tag will fulfil licence conditions, as the information on the tag is more important than its appearance. Tags can take the form of a sticker, label or sleeve, and may be attached to plant parts or containers that hold the plant parts, such as boxes.

There are no specific details that must be recorded on the tag; however, there must be sufficient information to trace the product to its origin. Suggested details include species botanical name, the term 'plantation grown' and the name of the supplier.

An applicant for a grower licence will also be applying for authorisation to print or write tags, instead of purchasing NPWS tags. This authorisation will be a licence condition and will be granted when OEH is satisfied that the applicant has the necessary experience, equipment and area under cultivation. The authorisation will apply to plants raised from seed or other propagating material, including division of a larger plant.

4.2 Record keeping requirements

All licensees are to keep records of plants harvested under licence.

Harvest records are to be up-to-date and forwarded to the local OEH office at the end of the growing season, at the end of the licence period, or as may otherwise be required by licence conditions. Records must contain the botanical name of the species harvested, the date of harvest, the quantity harvested and, for wild harvesters, the location.

The purpose of record keeping is two-fold. First, it ensures continuity of possession once plants have been on-sold by the wild harvested or grower. Second, it provides accurate data on where, when, what and how much is being harvested. This information will help ensure harvesting continues to be ecologically sustainable and will assist OEH in meeting its conservation objectives and planning in the cut-flower industry.

4.3 Field inspections

OEH will inspect properties that are subject to wild harvest licence applications to verify the availability of species. There will also be random inspections of properties for which licences have been granted to ensure that picking complies with this management plan and licence conditions.

Records maintained by licensees may also be inspected. Reports of all inspections will be prepared and details recorded in a database.

4.4 Public listing of licensees on the OEH website

The *Biodiversity Conservation Act 2016* (BC Act) requires that a public register of all biodiversity conservation licences issued under the Act will be published on the OEH website. This register will not include any personal information or information about the location of harvesting activities.

4.5 Reports

OEH will maintain a database of all wild harvest and grower licences issued, including details of plant species, numbers picked and grown, and inspections. Reports on the implementation of this management plan will be provided to Department of the Environment and Energy (DoEE) and published on the OEH website.

Special reports to DoEE will include any changes to:

- the schedules of protected or threatened species
- legislation relating to the picking of wild-growing and cultivated protected or threatened plants
- requirements for the issue of licences, authorities and related matters such as tagging.

Annual reports to DoEE will include details of:

- implementation of this plan
- harvest quotas and the data on which they were based
- the number of licences issued and the level of harvesting
- statistics showing the number and type of offences detected, and action taken.

4.6 Plant trading exceptions

4.6.1 Trading unprotected plants

While more than 600 native plant species have been listed as protected or threatened under the BC Act, all other native plants that occur naturally in NSW are not protected.

Many of these species have virtually no horticultural appeal or are extremely common in the wild, and harvesting does not impact on their conservation. Accordingly, they are not subject to any restrictions for picking, growing or tagging.

OEH needs to ensure that a species which enters the cut-flower trade is quickly appraised to determine whether it should be included in the licensing system. Under the present legislation, any such species would be added to Schedule 6 Part 1 of the BC Act.

4.6.2 Trading plants from interstate

Under the BC Regulation (clause 2.19), the interstate import and export of protected plants does not require a licence, as long as the plants comply with any applicable tagging requirements.

4.6.3 Traditional use

The BC Act provides an exemption to so that Aboriginal people and their dependents may gather or harvest from certain lands and have in their possession the fruit, flowers or other parts of protected native plants for domestic purposes. This exemption does not extend to commercial use of protected plants or plant parts.

Appendix A: Schedule of protected plants

(Note: Subject to approval of this plan, Schedule 6 Part 1 of the BC Act will be amended to align with the schedule set out below)

Part 1: Plant parts used in the cut-flower industry

Scientific name	Common name(s)
Group 1	Wild harvester or grower licence Picking from state forest permitted with forest products licence
<i>Adiantum</i> spp.	Maidenhair fern
<i>Archontophoenix cunninghamiana</i>	Bangalow palm (foliage only)
<i>Baeckea linifolia</i>	Weeping baeckea
<i>Banksia spinulosa</i>	Hairpin banksia
<i>Cassinia aureonitens</i>	Yellow cassinia
<i>Caustis</i> spp., native to NSW	Curly sedges, old man's whiskers
<i>Cordyline stricta</i>	Narrow-leaved palm lily
<i>Crowea exalata</i>	Crowea
<i>Crowea saligna</i>	Crowea
<i>Davallia solida</i> var. <i>pyxidata</i>	Hare's foot fern
<i>Dodonaea lobulata</i>	Lobed-leaved hop bush
<i>Eriostemon</i> spp. native to NSW	
<i>Gahnia sieberiana</i>	Red-fruited saw sedge
<i>Isopogon</i> spp., native to NSW	Drumsticks, cone bushes
<i>Kunzea ambigua</i>	Tick bush
<i>Kunzea capitata</i>	Pink kunzea
<i>Leptospermum lanigerum</i>	Woolly tea-tree

Scientific name	Common name(s)
<i>Leptospermum rotundifolium</i>	Round-leaf tea-tree
<i>Livistona australis</i> (foliage only)	Cabbage tree palm, fan palm
<i>Lomatia silaifolia</i>	Crinkle bush
<i>Persoonia</i> spp., native to NSW (except <i>P. pinifolia</i>)	Geebung
<i>Petrophile</i> spp., native to NSW	Conesticks
<i>Phebalium squamulosum</i>	Scaly phebalium
<i>Philothea</i> spp., native to NSW	Philothea
<i>Ptilotus exaltatus</i>	Tall mulla mulla
<i>Ptilotus obovatus</i>	Smoke bush, cotton bush
<i>Pycnosorus</i> spp., native to NSW	Billy-buttons
<i>Restio tetraphyllus</i>	Tassel-rush
<i>Sannantha angusta</i>	
<i>Sannantha collina</i>	
<i>Sannantha crassa</i>	
<i>Sannantha pluriflora</i>	
<i>Sannantha similis</i>	
<i>Sprengelia incarnata</i>	Pink swamp heath
<i>Sticherus flabellatus</i>	Shiny fan-fern, umbrella fern
<i>Swainsona formosa</i>	Sturt's desert pea
<i>Tmesipteris</i> spp., native to NSW	Ferns
<i>Xanthorrhoea</i> spp. (foliage only)	Grass trees
<i>Xylomelum</i> spp., native to NSW	Woody pear

Scientific name	Common name(s)
<i>Zamiaceae</i> , native to NSW	Cycads
Group 2	Wild harvester or grower licence Picking from state forest permitted with forest products licence
<i>Boronia</i> spp., native to NSW	Boronias
<i>Doryanthes excelsa</i> (foliage only)	Giant lilies
<i>Eriostemon australasius</i>	Wax flower
<i>Lycopodium</i> spp., native to NSW	Mountain moss
<i>Persoonia pinifolia</i>	Pine-leaved geebung
<i>Philotheca obovalis</i>	Wax flower
Group 3	Wild harvester (NPWS tags required) or grower licence
<i>Actinotus</i> spp., native to NSW (except <i>A. minor</i>)	Flannel flower
<i>Blandfordia</i> spp.	Christmas bells
<i>Doryanthes excelsa</i> (flowers only)	Giant lily
<i>Xanthorrhoea</i> spp. (flowers only)	Grass tree
Group 4	Grower licence only
<i>Boronia deanei</i>	Dean's boronia
<i>Boronia umbellata</i>	Boronia
<i>Craspedia</i> spp., native to NSW	Billy buttons
<i>Dicranopteris linearis</i>	
<i>Doryanthes palmeri</i>	Spear lily
<i>Grevillea longifolia</i>	Fern-leaf grevillea
<i>Isopogon fletcheri</i>	

Scientific name	Common name(s)
<i>Leptospermum spectabile</i>	
<i>Macrozamia johnsonii</i>	Cycad
<i>Macrozamia. flexuosa</i>	Cycad
<i>Persoonia</i> spp.	Geebung
<i>Phebalium bifidum</i>	
<i>Phebalium glandulosum</i> spp. <i>eglandulosum</i>	
<i>Philotheca ericifolia</i>	
<i>Philotheca obovatifolia</i>	Native daphne, long-leaf wax flower
<i>Telopea</i> spp., native to NSW	Waratah

Part 2 of Schedule 6 of the BC Act is not relevant to the cut-flower industry, so it is not reproduced in this plan.

Appendix B: Wild harvest licence requirements

The following requirements and conditions are current at the time of publication and are subject to change at any time.

- Wild harvest licences are issued by OEHL under section 2.11 of the *Biodiversity Conservation Act 2016* (BC Act).
- Wild harvest licences are issued for a maximum period of one year.
- Harvest returns must be submitted no later than one month from the anniversary of the licence start date.
- Licences will not be renewed until harvest returns are submitted.
- Wild harvest licences are required by those who harvest protected native plants from naturally growing stands on the licensee's land for the cut-flower or related industry. A wild harvest licence may only be issued to the owner of the property.
- All wild harvesters must be licensed to sell protected or threatened plant parts, grown or artificially cultivated on their own property. If a wild harvester is harvesting from both wild and cultivated stock then two licences will be required, but only the fee for the wild harvest licence will be applied.
- Wild harvest licences will not be issued for harvesting threatened species, endangered populations or ecological communities or as otherwise specified in this management plan.
- A wild harvest licence may be issued to a person, company or body corporate. A licence cannot be issued to a trading name or partnership. In the case of a partnership, the licence may be issued in the name of a partner and the existence of a partnership may be acknowledged on the licence such as 'James Buck (for and on behalf of James Buck, Nicole Doe and Tim Fawn)'. Where the application is not for an individual, one of the parties must be the owner of the property.
- Where a person, company or partnership is an employer, each person who is authorised to harvest must be nominated for inclusion in the licence. The applicant will be required to provide the full name, birth date, address and contact number for each person who harvests.
- The applicant must be able to demonstrate that harvesting can be sustainable.
- Licence holders and all those acting on their behalf are to harvest all wild plants according to any relevant guidelines (e.g. FloraBank).
- Wild harvesters are to keep a copy of their licence at the property where the plants are harvested.

Tagging requirements

Upon granting of a licence, the licensee is required to specify and pay for the NPWS tags required within the initial three-month period of the licence; tags will then be printed. Additional tags may be requested from the NPWS office issuing the licence up to the quantity set on the initial application. A period of two weeks must be allowed for a request to be processed, and tags must be paid for prior to printing.

Tags will be printed by the OEH once a licence has been issued. If insufficient NPWS tags are issued, the licensee should contact the NPWS office which issued the licence and additional tags will be printed and issued as appropriate.

Unused tags should be returned to OEH and may be exchanged for valid tags. The cost of unused tags will not be refunded; OEH may charge a fee to cover costs and no additional processing fee will apply.

All protected plants requiring tags are to be tagged either in bunches or individual stems, depending on the species. These tags are to be attached on site and are not to be re-used.

General licence conditions

- The licensee may only harvest approved species of protected native plants in quantities up to those specified in the licence.
- The licensee may only harvest the species of protected native plants as specified and described on the licence.
- It is the responsibility of the applicant to confirm the identification of the species that they intend to pick. Where this is in doubt, the species should be formally identified through a recognised authority such as the NSW Herbarium.
- The licensee may only harvest protected plants from the land specified and described on the licence.
- The licensee must comply with any requirements as set down in this plan as amended or replaced from time to time.
- When requested, the licensee shall produce the licence to an authorised officer or owner, occupier or lessee of the land specified on the licence.
- The licensee shall produce the licence to all who buy or receive protected or threatened plant parts from the licensee.
- The licensee agrees to indemnify, and keep indemnified, the Crown in right of NSW (OEH), the NSW Minister responsible for administering the BC Act, the Environment Agency Head and their employees, agents and contractors, in the absence of any wilful misconduct or negligence on their part, from and against all actions, demands, claims, proceedings, losses, damages, costs (including legal costs), charges or expenses suffered or incurred by them resulting from:
 - any damage or destruction to any real or personal property
 - injury suffered or sustained (including death) by any persons arising out of or in connection with the activities undertaken pursuant to this licence.
- Plant parts that require tagging must be tagged on the land specified and described on the licence prior to being transported.
- Any place where plant parts are to be picked, stored or processed are to be made available for inspection on request by an authorised officer.
- Receipts for all sales will be made and those records will be kept for a minimum period of two years. The licensee will make these receipts available for inspection on request from an authorised officer.
- The licensee shall forward to the NPWS area office a copy of harvest records for the licence period no later than one month after the licence has expired. No new licence will be granted until the harvest report has been submitted.

- The licensee must establish monitoring plots to monitor harvest sustainability through either the provision of accurate (+/- 10 m) geographical coordinates of harvest sites **or** the establishment of fixed photographic monitoring point(s).
- The fixed photographic point must cover a representative part of the harvest area and is to be marked in the field by a permanent marker that includes the licensee's licence number. Photographs are to be taken immediately before and after picking at each site. These photographs must be provided to the NPWS local area office at the completion of the harvest.
- The boundaries of harvest sites must also be mapped and provided to OEH when harvest return sheets are submitted.
- No licence renewal will be granted until the monitoring conditions have been fulfilled.

Making an application

Applications for a wild harvest licence must be made using the application form on the OEH website.

An applicant must supply the following:

- their full name, address and contact phone numbers
- full name, address, contact phone number of all those working for the harvester
- proof of land ownership – a copy of the land title or council rates will suffice
- a description of the properties that will be harvested including a sketch showing access from the nearest town, including geographical information such as latitude and longitude
- a map to assist an authorised officer to locate the plants to be harvested
- a map showing the photographic point and a description of the marker or accurate geographical coordinates
- a list of species and quantities to be harvested; quantities may be recorded in either stem numbers or bunches, including number of stems per bunch
- a population estimate for each of the target species; plots may include several species (Appendix J)
- an estimate of the total annual harvest
- an estimate of either total numbers of target species or the area they occupy
- where the picked plant parts will be processed and stored
- a record of any approval for land clearing or other major disturbance
- details if the property is managed under a conservation agreement or other covenant
- a statement of predicted impacts of the proposed harvest
- details of any recent changes to the harvest area, for example fire or land clearing
- measures for damage mitigation
- signature of the applicant and date.

All applicants are to be informed that the properties they harvest may be inspected either before or after a licence is granted. They should also be made aware of the licence fees, the address for submission of applications and reports, and any relevant offence provisions under the BC Act with respect to protected and threatened species. This information is to be included on all plant licence application forms.

The applicant must demonstrate that the proposed harvest is sustainable. Any reasonable restriction or limitation can be placed on a wild harvest licence by an OEH to ensure the harvest is sustainable.

Appendix C: Grower licence requirements, conditions and forms

Grower licences concern the harvest of flowers or foliage from cultivated plants. The following requirements and conditions are current at the time of publication and are subject to change at any time:

- Grower licences are issued by OEHL under section 2.11 of the *Biodiversity Conservation Act 2016* (BC Act).
- Grower licences are issued for a maximum period of five years.
- Harvest returns must be submitted no later than one month from the anniversary of the licence start date.
- Licences may be cancelled or not renewed if harvest returns are not submitted.
- Grower licences are required by those who harvest from cultivated protected native plants by either the owner or occupier of the land for the commercial cut-flower or related industry. A grower licence to harvest protected native plants on private land for non-commercial purposes is not required. No harvest levels will be set for grower licences.
- If a grower is harvesting both from the wild and from artificially cultivated stock, then two licences will be required.
- Grower licences may be issued for harvesting cultivated threatened species, endangered populations or ecological communities, or as otherwise specified in this management plan.
- A grower licence may be issued to a person, company or body corporate. A licence cannot be issued to a trading name or partnership. In the case of a partnership the licence may be issued in the name of a partner and the partnership acknowledged on the licence, for example 'James Buck (for and on behalf of James Buck, Nicole Doe and Tim Fawn)'.
- Where a person, company or partnership has employees cultivating stock, the licensee must maintain a signed register of all persons authorised to act on their behalf. This register must include the employee's full name, date of birth and current address.
- Growers must keep a copy of their licence at the property where the plants are grown.

Tagging requirements

Grower tags, stickers or sleeves are used for identifying protected or threatened plants harvested from artificially cultivated plants.

Grower licensees may use grower tags instead of NPWS tags. The tags may take the form selected by the grower; for example, a paper tag, a sticker or sleeve. These tags are printed or written by the grower or a professional industry association to which the grower belongs.

Grower tags must contain sufficient details to permit the product to be traced to its origin. A suggested set of details includes species botanical name, the term 'plantation grown' and the name of the supplier.

Each grower licence may include several species and will contain varying conditions.

If grower licensees choose to use NPWS tags, they must specify and pay for the tags required for the initial three months of the licence. Additional tags, up to the number specified on the application, can be obtained throughout the licence period from the NPWS

office where the application was lodged. Tags must be paid for when they are requested and processing them will take up to two weeks. NPWS tags will be printed by the Biodiversity and Wildlife Team of OEH once a grower licence has been issued.

Unused tags should be returned to OEH and may be exchanged for valid tags. The cost of unused tags will not be refunded; however, OEH may charge a fee to cover costs and no additional processing fee will apply.

All plants requiring tags are to be tagged on site after picking, either in bunches or stems, depending on the species.

Plants that require tagging must be tagged on the site specified on the licence before being transported to another location.

General conditions

- The licensee may only grow the plants specified on the licence.
- All plants requiring tags are to be tagged individually or in bunches or according to the conditions in this management plan for sale within Australia. Export sales may be tagged in the units in which they are usually sold.
- Licensees and all those acting on their behalf are to grow plants according to relevant guidelines (e.g. Florabank) for the taking and use of protected plants.
- It is the responsibility of the applicant to confirm the identification of the species that they intend to pick. Where this is doubt, the species should be formally identified through a recognised authority such as the NSW Herbarium.
- No harvest levels will be set for material harvested under a grower licence.
- The licensee is to keep a copy of their licence at the property where the plants are grown.
- The licensee must produce the licence to any authorised officer or any owner, occupier or lessee of the land specified on the licence.
- The licensee must produce the licence to all persons who buy or receive protected or threatened plants from the licensee.
- Any place where plants are to be picked, stored or processed is to be available for inspection upon request by an authorised officer.
- The licensee must comply with any requirements in this plan as amended or replaced from time to time.
- Receipts for all sales must be kept for a minimum period of two years. The licensee must make these receipts available for inspection upon request from an authorised officer.
- The licensee must forward to the NPWS area office a copy of harvest records for the licence period no later than one month after the licence has expired. No new licence will be granted until the harvest report has been submitted.
- The licensee agrees to indemnify and keep indemnified, the Crown in right of NSW (OEH), the NSW Minister responsible for administering the BC Act, the Chief Executive, and their employees, agents and contractors, in the absence of any wilful misconduct or negligence on their part, from and against all actions, demands, claims, proceedings, losses, damages, costs (including legal costs), charges or expenses suffered or incurred by them resulting from:
 - any damage or destruction to any real or personal property

- injury suffered or sustained (including death) by any persons arising out of or in connection with the activities undertaken pursuant to this licence.

Making an application

Applications for a grower licence must be made using the application form on the OEH website.

Prospective growers are encouraged to contact their local NPWS area office as early as practical regarding their licensing requirements. This will ensure that growers are aware of the current licensing systems as early as possible. NPWS area offices can assist with information relating to the licensing and tagging requirements for the species being propagated.

An applicant must supply the following:

- their full name, address and contact phone numbers
- a list of the species to be grown and the proposed quantities
- full name, address, contact phone number and signature (acknowledging permission) of the land owner, occupier or lessee of each parcel of land, where appropriate, used for cultivation
- a full description of each property where the plants will be grown, including a sketch showing access from the nearest town to the property
- an estimate of the total annual harvest
- the area under cultivation
- where the plants will be processed and stored
- any approval for land clearing or other major disturbance
- details if the property is managed under a conservation agreement or other relevant covenant
- a statement relating to the predicted impacts of the proposed cultivation
- details of any recent changes to the area such as fire or land clearing
- signature of the applicant and date.

All applicants are to be informed that the properties where they are growing may be inspected either before or after a licence is granted. They are also to be made aware of the licence fees, the address for submission of applications and reports and any relevant offence provisions under the BC Act with respect to protected and threatened species. This information is to be included on all plant licence application forms.

A copy of the land title or council rates will suffice as proof of ownership.

Upon expiry of a Grower licence, OEH will endeavour to issue licence renewal notices, however, the onus lies with the licensee to ensure licences are renewed.

Appendix D: Processing of licence applications

The following requirements for the processing of licence applications are current at the time of publication and are subject to change at any time.

If the applicant has identified that they intend to export their product to an international market they are required to contact Department of the Environment and Energy (DoEE) as OEH does not have a role in this process.

Wild harvest and grower licence applications are to be lodged with the relevant NPWS area office, either personally or by mail. The fee for the licence is to be paid at the time of lodgement of an application. The fee for these licences will not be refunded if the application is refused.

A standard inspection report form will be incorporated into the application forms.

OEH will conduct initial inspections to ensure the proposed activities are ecologically sustainable. Inspections also ensure the applicants have appropriate plantation plants, processing and storage facilities.

OEH may refuse to grant applications, impose restrictions through licence conditions, alter conditions after the granting of a licence, or cancel an existing licence. OEH must follow administrative procedures, including consultation with the applicant or licensee when making any of these decisions.

The applicant or licensee has a right of appeal to the Land and Environment Court against a licensing decision as per Section 2.16 of the *Biodiversity Conservation Act 2016* (BC Act).

When assessing an application, if OEH is unsure of the sustainability of the proposed harvest, the applicant may be required to seek an independent review by a person with relevant expertise whose advice will be considered when making a decision on whether to grant a licence.

In assessing applications for licences, the OEH must:

- assess the accuracy of the information provided by the applicant
- check that the correct licence type has been applied for
- check the conservation status of the species proposed for harvesting
- check the estimated quantities of plants to be harvested
- check the estimated size of the plant population in proposed harvest sites
- consider the availability of plants from cultivated sources.
- consider any prevailing climatic conditions or other factors, such as feral and native animals
- check whether the applicant has established photographic monitoring sites or provided accurate geographical coordinates
- check whether the applicant has the ability to monitor, compare and analyse any changes to the characteristics of the harvest sites
- check that the applicant has taken measures, or has a plan, for damage mitigation
- when assessing grower licence applications ensure that the area under cultivation and the storage and processing facilities concur with what the applicant has stated by an on-site inspection
- consider the number of years since the last fire affected the harvesting site.

In most cases, approval should not be granted for any harvesting within three to five years after fire, depending on the intensity and location of the fire. Some slow growing species may require 10 years to recover from fire; species where flowering is induced by fire will be exempt from this requirement. Note that rainforests are rarely burnt, but if they have been, they require a reasonable period for recovery and it is likely to be ecologically important that no harvesting of rainforest species occurs soon after fire. For those species that flower after fire, there is often only one or a few flowering seasons, and such seasons represent the only reproductive input for one or two decades.

The licensee may be an individual, a registered company or a body corporate. Licences cannot be issued in the name of a partnership; however, the existence of the partnership and names of the partners can be included in the licence.

Appendix E Christmas bells (*Blandfordia cunninghamii*, *B. grandiflora*, *B. nobilis*)

- Christmas bells are among the most popular east coast wildflowers. They are slow-growing grass-like plants that produce tubular flowers in groups of six or more on stems up to about 60 centimetres long. During the flowering period, generally December to January, Christmas bells are frequented by nectar feeding birds, particularly honeyeaters.
- As cut flowers, Christmas bells are in high demand both within Australia and overseas. Due to their popularity as cut flowers, they are a species that tends to be frequently bush picked and over-picked to the extent that localised species extinction has occurred. Damage has also occurred to the surrounding environment through poor picking or habitat modification. In some areas, regular slashing and burning to change the habitat of Christmas bells has altered the species diversity and distribution throughout the whole ecosystem, thereby adversely affecting that ecosystem.
- Christmas bells may be propagated from seed, but seedling growth can be slow. Propagation by tissue culture has not met industry expectations.
- The need for continued licensing of wild-picked Christmas bells will be kept under review.
- Only grower and wild harvest licences will be issued. It is anticipated that by encouraging the industry and market to support the higher quality cultivated flower there will be investment in propagation which will also assist with the conservation of the habitat of these plants.
- Prior to issuing a licence, OEH may carry out an inspection of the land in the licence application to ensure that the proposed harvesting is sustainable.
- A tagging system will operate to monitor harvest levels and distinguish between plants that have been wild harvested or cultivated.

Appendix F: Waratah (*Telopea aspera*, *T. mongaensis*, *T. oreades*, *T. speciosissima*)

- The waratah is an attractive species for the cut-flower market. Its bright red flowers, contrasting deep green foliage and a vase life of up to two weeks have earned it a reputation as being an excellent cut flower. Plants grow to three metres in height and are usually single stemmed until burnt by fire. After fire, the plant reshoots from underground lignotubers and becomes multi-stemmed. Large flowers 15 centimetres in diameter are common. Birds are the primary pollinators.
- Several waratah cultivars have been developed which are easily identifiable and have pink and white flowers. These still require licensing when sold.
- Waratah seed readily germinates, provided the seed is fresh. Germination rates of up to 90% are achievable. It is also possible to propagate from cuttings and by layering and tissue culture. The success of growing new plants appears to be soil related, with the best plants produced in sandy loam with good drainage.
- The cut-flower industry has invested in developing the waratah as a cut flower. Continued development of waratah plantations has reduced the market for inferior quality bush-picked product.
- Conservation concerns are held for this genus in the wild.
- To ensure a sustainable and viable wild population of the species, no wild harvest licences will be issued, but grower licences are available.
- Prior to issuing a licence, OEH may inspect the land nominated in the licence application to ensure that cultivation is sustainable.
- Plants harvested under a grower licence will require a grower tag or other approved means of identifying the source.
- Waratah material produced under grower licence must be accompanied by a consignment note or invoice that contains the required information to identify the material to its origin (for example, 'plantation grown' with the name of supplier or similar). Individual tags for each stem or bunch are not required.

Appendix G: Flannel flower (*Actinotus* spp. excluding *A. minor*)

- Flannel flowers are widely known in Australia due to their contrasting white flowers and flannel-textured grey–green foliage. Highly ornamental, there has been strong interest in their development as cut flowers.
- Flowering occurs during spring and early summer, often en masse. Large amounts of seed are produced, but only about 70% are viable. Seeds often remain dormant until after fire. Higher rates of establishment are obtained from cuttings taken from cultivated plants. The flannel flower has been described as a pioneer species, growing in abundance after fire. Plants are often short lived, with a life of four to five years.
- Research funded by organisations such as the Rural Industries Research and Development Corporation has found that there is scope for supplying the export market with quality cultivated varieties, and a significant amount is now cultivated.
- The picking of flannel flowers from the wild, particularly large amounts from state forests, has been detrimental to the development and sustainability of cultivated crops that were established to meet the cut-flower market demand.
- Variable and often poor harvest quality and short vase life of the bush-picked flower has damaged the reputation of flannel flowers as a premium product. There is also anecdotal evidence that wild harvest is not ecologically sustainable as most reproductive material is removed from the harvest area.
- The need for continued licensing of wild-picked flannel flowers will be kept under review.
- It is anticipated that by encouraging the industry and market to support the higher quality cultivated flowers there will be an investment in propagation of the species. This will also assist with conservation of the habitat of these plants.
- Prior to issuing a licence, OEH may inspect the land proposed in the licence application to ensure the proposed harvest is sustainable.
- A tagging system will operate to monitor harvest levels and distinguish between wild harvested and cultivated plants. Plants harvested under a wild harvest licence will require one NPWS tag per bunch.

Appendix H: Grass trees (*Xanthorrhoea* spp.)

- *Xanthorrhoea* are conspicuous in the Australian landscape. Most species have tall rough stems, sometimes black as a result of fire. They are very slow growing: the growth rate of trunks is about 1–2 centimetres per year. Long narrow leaves hang from the tops of trunks. Towering sometimes two metres above the leaves is a white or cream spear-like flower. Flowering can occur in spring, but may not be annual. The best flowering follows fire. *Xanthorrhoea* flowers are attractive to both birds and insects. Aboriginal people use the nectar of the flowers to sweeten drinks and flower spikes as throwing spears.
- Due to the slow rate of growth and unpredictable flowering, harvesting of foliage and flowers of *Xanthorrhoea*, if not done sustainably, could impact on the biodiversity of the harvest area. To ensure the harvest of *Xanthorrhoea* foliage and flowers is sustainable, the following requirements apply.

- a) Licences will restrict harvesting of foliage to a maximum of 25% of green leaves from each plant in any 12-month period.
 - Foliage should not be reharvested until the crown has sufficiently regrown, such that the previously harvested area is hidden below the ‘skirt’ if the plant.
 - Foliage should be taken from the middle section of the growing mass – avoiding the crown and the lower ‘skirt’.
 - Harvesting should not occur within the first 24 months following fire or where full recovery of the foliage has not occurred for any other reason.
 - Harvest from healthy plants, preferably from areas of high population density.
 - Harvest with clean hand-held secateurs, knives or other implements, and clean these implements before moving to another area.
- b) Although *Xanthorrhoea* flower spikes are common they are in high demand in the cut-flower industry. The flowers contain the entire reproductive material of the plant for at least one year and are an important food source for native animals: consequently, their conservation is of concern.

A maximum harvest quota for flower spikes of grasstrees should be no greater than 20% of the total population of flowering plants in any one season.

To facilitate the calculation of harvest rates and their regulation wild harvesters must adopt a rotational harvesting practice (see Appendix J) to ensure a percentage of the area will have seed set periodically to ensure sustainability.

- An assessment will be undertaken to ensure that the applicant has access to sufficient plants to justify the quantity proposed for harvest.
- A tagging system will operate to monitor harvest levels and to distinguish between wild harvested and cultivated products.
 1. Flower spikes harvested under a wild harvest licence require a NPWS tag.
 2. Flowers harvested under a grower licence require a NPWS tag but may also include a grower tag for product differentiation.
- There is a significant retail and landscaping trade in whole *Xanthorrhoea* plants that have been removed from natural areas. This is covered in the whole plant sustainable management plan.

Appendix I: Gymea lily (*Doryanthes excelsa*)

- Gymea lilies are spectacular plants with large, compact heads of nectar-filled red flowers on tall, thick stems. This species flowers in spring and summer on stems up to six metres high. Although seed germinates easily, plants grown from seed are slow growing and take up to 10 years to flower. Birds are the primary pollinators.
- This species has a restricted distribution in the wild and this has implications for the harvesting of wild populations.
- The Gymea lily is an increasingly sought-after plant for both flowers and foliage. Presently few plants are cultivated and most material comes from bushland. High monetary returns have created a situation where material is removed illegally from the roadside, private properties and national parks.
- The flower spikes contain the entire reproductive material of a plant for at least one year and are an important food source for native animals, and consequently conservation of the species is of concern.
- Only grower and wild harvest licences will be issued for this species. It is anticipated that by encouraging the industry and market to support cultivation there will be an investment in propagation, which will assist the conservation of these plants.
- It is recommended that wild harvesters adopt rotational harvesting practices (see Appendix J).
- Prior to issuing a licence, OEH may carry out an inspection of the land in the licence application to ensure the proposed harvest is sustainable.
- A tagging system will operate to monitor harvest levels and distinguish between wild harvested and cultivated plants. Two types of tags will apply.
- Plants harvested under a wild harvest licence require a NPWS tag.
- Plants harvested under a grower licence require only a grower tag or other approved means of identifying the source of material.

Appendix J: Tools for assessing population and harvest numbers for wild harvest

An effective data collection strategy will provide a basis for monitoring and adaptive management of harvesting. In this way, the commercial use of plants in the cut-flower industry can be managed sustainably.

The species composition of a site will be influenced by its physical environment (including geology and drainage), size, recent rainfall or drought conditions and by its disturbance history (including fire, wind throw and tree fall). Determining a sustainable rate of harvest is dependent upon the provision of data, which may include data on fecundity and growth rate.

The harvesting of plant parts, particularly foliage, can remove nutrients that would otherwise be recycled in the ecosystem. Therefore, overharvesting may lead to changes in soil nutrients, which may jeopardise sustainable harvesting of species from these communities.

Repeatedly removing reproductive material, such as flowers, fruit and seeds, can lead to a reduction in genetic diversity and fitness, particularly in species that have long generation times (for example, *Xanthorrhoea* spp.). Reduced genetic diversity may limit the capacity of a species to adapt to environmental changes.

Determining the number of plants per acre or hectare

Step 1: Determine the harvest area

It is easiest to use a map of the area to determine the total harvesting area.

Rotational harvesting is recommended to ensure management practices are ecologically sustainable, especially for species that have large flower stems such as the Gynea lily or grass trees.

Dividing the harvest area into five and not harvesting from one of the five areas each year, rotating the unharvested area each year, will ensure that seed in each area will set. This approach can make managing the area straightforward in determining percentages being picked, as 80% of the land is being harvested. The general harvest must still occur at the recommended rates. This also assists with enforcement as authorised officers can inspect the property and see areas that have not been harvested as there would be seed heads still on the plants on the unharvested area.

Rotational harvesting: area divided into five management areas

Area 1	Area 2	Area 3	Area 4	Area 5
Area not harvested in first harvest year	Area not harvested in second harvest year	Area not harvested in third harvest year	Area not harvested in fourth harvest year	Area not harvested in fifth harvest year

Step 2: Establish at least four plots

Choosing four plots representative of the area proposed for harvesting (20 m × 20 m each) is recommended. Mark each plot using tent pegs and tape or similar means.

Step 3: Establish the number of plants per hectare or acre

In each of the 20 m × 20 m plots (column 1 below) record the number of plants proposed for harvest (column 2 below).

Determine the average number of plants per hectare (10,000 m²) by multiplying the total number of plants in each plot by 25, and then divide by 4 (column 3 below). To determine the average number of plants per acre, multiply the total number of plants in each plot by 10.1 (one acre is 2.47 hectares) and divide by 4.

Record of plants in the harvest area

Plot # (20 m × 20 m)	Plants per plot (N)	Plants per hectare = N × 25	Comments
1	11	275	
2	14	350	
3	6	150	Mostly young plants
4	12	300	
Total	43	1075 (in 4 ha)	268 plants per ha

NB: figures have been rounded to whole numbers.

In the table above, the applicant proposes to harvest from an area of 4.8 hectares giving a population available for harvest of 1286 plants.

Below is a table to calculate the number of plants per acre or hectare. For a 20 m × 20 m (400 m²) plot, multiply the number of plants by the number that corresponds to the harvest area.

Harvest area (acres)	Multiply the number of plants in 400 m ² plots by
1	10.1
½	5.1
¼	2.5
1/8	1.3
Harvest area (hectares)	Multiply the number of plants in 400 m ² plots by
1	25
½	12.5
¼	6.25
1/8	3.125