



# ***FOREST BOTANY MANUAL***

## ***MODULE 1***

### ***INTRODUCTORY MODULE***



**2005**

**FPA**  
FOREST PRACTICES AUTHORITY

**FOREST BOTANY MANUAL:  
MODULE 1 – INTRODUCTORY MODULE**

**2005**

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## ACKNOWLEDGEMENTS

The *Forest Botany Manual* has had a long genesis. Over the years, several versions of the Manual were produced, to allow forest managers and planners to take account of the flora requirements of the Tasmanian *Forest Practices Code* and other policies; and to incorporate the results of research into the management of forest species and communities.

Development of the Manual has taken place under the direction of Fred Duncan. Significant scientific and technical support was provided by Mark Wapstra, Brooke Craven, Katriona Hopkins, Brian French and Karen Johnson. Many other people field-tested the Manual, gave advice or assisted in other ways. They include (with apologies to those inadvertently not mentioned): Allison Woolley, Andrew North, Anne Chuter, Barry Graham, Bernard Plumpton, Bert Witte, Birgit Kruse, Bob Hamilton, Brett Miller, Craig Hawkins, David Tucker, Dennis Chester, Diana Duncan, Eve Lazarus, Graham Wilkinson, Henry Chan, Hope Beach, Janet Morley, Jill Weller, Joe Hawkes, John Hickey, Karen Ziegler, Louise Gilfedder, Mark Neyland, Mick Brown, Phil Barker, Richard Barnes, Rob Taylor, Robert Onfray, Sarah Munks, Sheryl Wolfe, Sue Jennings, Tim Wardlaw, Vanessa Thompson and Wendy Potts.

Most photographs in the *Forest Botany Manual* were taken by staff of the Forest Practices Authority. Other illustrations are by Fred Duncan.



## INTRODUCTION

The *Forest Botany Manual* is written to help field workers, particularly Forest Practices Officers (FPOs), to identify sites and issues relevant to sustainable management of Tasmania's forest vegetation (plant species and communities) and associated non-forest vegetation. The Manual is mainly designed for evaluating areas of native vegetation that are being considered for forestry operations. It may also prove useful in assessing other forested areas.

Appropriate management of flora values is needed to comply with principles and guidelines in the Tasmanian *Forest Practices Code* (2000) and policies and legislation such as the *Forest Practices Act*, *Threatened Species Protection Act* and the *Regional Forest Agreement* (1997). Sections of the *Forest Practices Code* that deal primarily with flora values are given in Appendix 1. The complete *Forest Practices Code* can be accessed on the Forest Practices Authority's website. This site also gives information on preparation of Forest Practices Plans, and the operation of Tasmania's forest practices system. The *Forest Practices Act* and *Forest Practices Regulations*, and related legislation, can be accessed on the Tasmanian Legislation website: [www.thelaw.tas.gov.au](http://www.thelaw.tas.gov.au).

Management of plant species and communities often needs to be considered at a bioregional level, as well as for Tasmania as a whole. Consequently, the *Forest Botany Manual* has been divided into regionally-based modules, as follows:

Module 1: Introductory Module	Module 5: Midlands Region
Module 2: Woolnorth Region	Module 6: D'Entrecasteaux Region
Module 3: Ben Lomond Region	Module 7: Central Highlands Region
Module 4: Freycinet Region	Module 8: West and Southwest Region

Module 1 (this module) describes the approach to be used for evaluating flora values in proposed operational areas. FPOs should use the appropriate regional module (Modules 2 to 8) to assess vegetation that could be affected by the operation, and to determine if specialist advice is required for sites with the potential to contain plant species, communities or other flora values with a priority for conservation. The format of the regional modules follows the format of the *Flora Evaluation Sheet* that needs to be completed by FPOs when they are preparing a Forest Practices Plan (FPP). The FPP *Flora Evaluation Sheet* is given in Appendix 2.

The *Forest Botany Manual* is supported by information on the Forest Practices Authority (FPA) website. A series of Flora Technical Notes also covers aspects of vegetation management in Tasmanian forests. The Manual gives addresses for some useful websites – these are correct at the time of preparation. The links page on the FPA website gives an active link to many of these sites. PDF files of each module are located on the FPA website. The Manual is also available as a CD.

The format of the *Forest Botany Manual* allows information on species, communities and other botanical issues to be updated periodically, as priorities change in response to changes in legislation, additions to the Tasmanian reserve system (on public land and private land), research and new information on the distributions and conservation status of species and communities.

Queries and comments about the format or content of the *Forest Botany Manual* should be referred to the FPA's Senior Botanist. Queries and notifications about vegetation in operational areas should generally be referred to the Senior Ecologist.

### Contact details for the Forest Practices Authority's Botany and Ecology programs:

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## USE OF REGIONAL MODULES

The bioregions used in this manual were developed during an Interim Biogeographic Regionalisation of Australia, undertaken in the course of the Tasmanian Regional Forest Agreement (RFA). They are known as IBRA4 Regions and are the basis for the monitoring, by the Forest Practices Authority, of management of Tasmania's forest estate. The IBRA4 Bioregions have since evolved into IBRA5 Bioregions, which are also used for much of Tasmania's conservation planning.

The use of IBRA4 Regions, rather than IBRA5 Regions, will not lessen the likelihood of flora values being appropriately considered and referred to the FPA for specialist advice. This is because conservation priorities between corresponding IBRA4 and IBRA5 bioregions are similar, and because the *Forest Botany Manual* uses a precautionary approach to species and communities with the potential to have high conservation values.

The locations of IBRA4 regions used in the *Forest Botany Manual* are shown on the following page. The boundaries are defined in each of the Regional Modules. Note that a Regional Module has not yet been prepared for the Furneaux Region because of the absence of commercial forestry operations in this region.

Each Regional Module is divided into six sections:

**Section 1** gives a brief overview of the region.

**Section 2** provides keys to forest and non-forest vegetation, and more detailed keys to forest communities. Tables indicate conservation priorities for forest communities.

**Section 3** lists plant species that have a priority for conservation in the region - most of these are species listed on the Tasmanian *Threatened Species Protection Act 1995*.

**Section 4** indicates sites of potential significance for flora conservation. These are environments that are often associated with species or communities that have a priority for conservation.

**Section 5** discusses some other issues (e.g. weed and disease management) that may need to be considered by FPOs, to ensure that the operation complies with botanical requirements of the *Forest Practices Code* and other policies.

**Section 6** uses a flow diagram to summarise the evaluation process, indicating the steps that need to be taken after a FPO has assessed the FPP area (see page 5). The diagram follows the format used in the FPP *Flora Evaluation Sheet*.

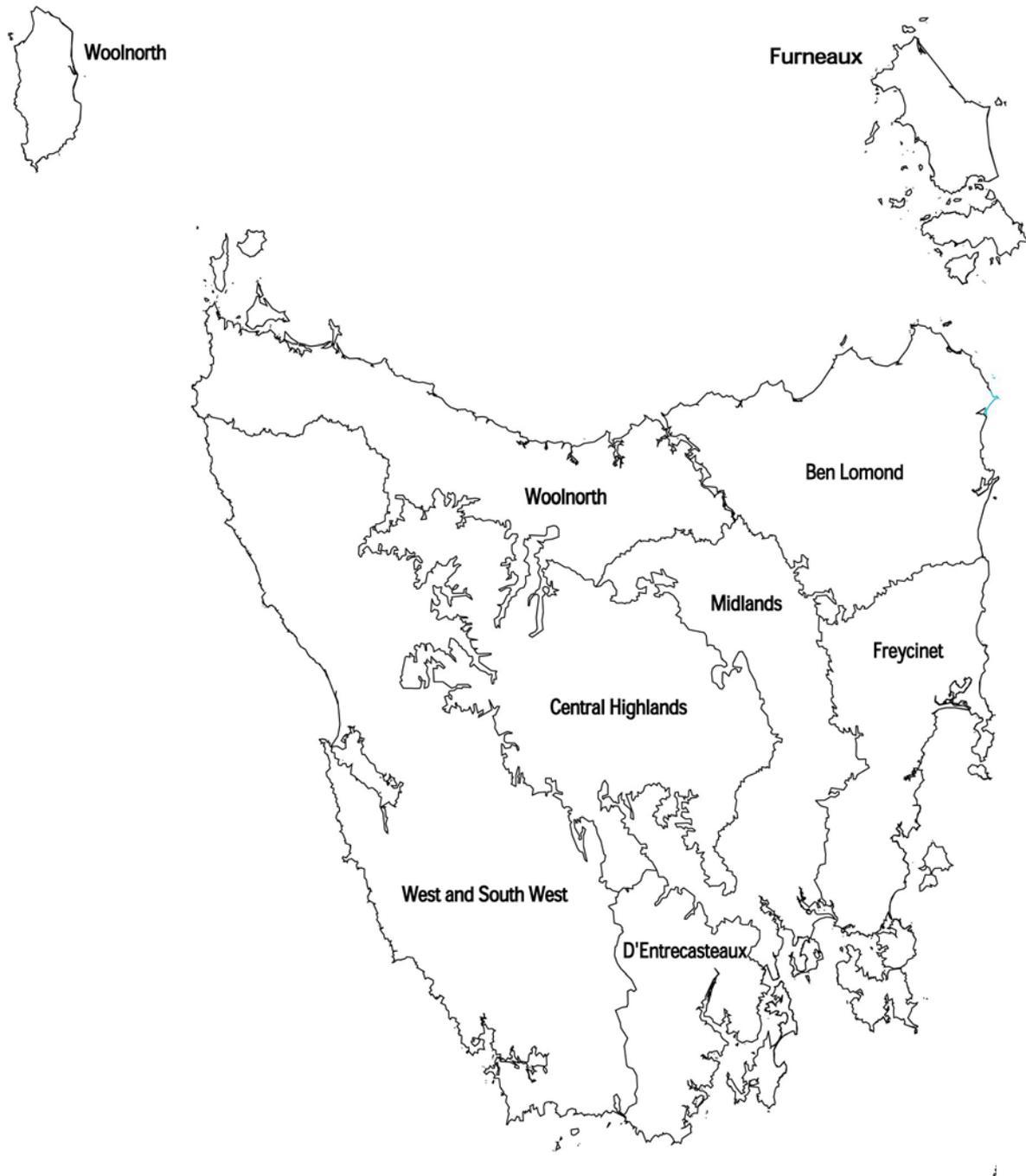
The processes used to determine if communities, species and sites of potential significance are present in an area, will also capture National Estate flora values (as identified in the RFA) that have the potential to be affected by forestry operations.

Appendix 3 of this module gives the codes, for forest communities and non-forest vegetation, which should be used for entry of information on FPPs. Appendix 6 lists scientific names and common names of species that are used to differentiate forest communities in the keys in Section 2 of each of the Regional Modules. Details of all references cited in the Regional Modules are given at the end of this Module. *Flora Technical Note 2* gives a more complete list of references on Tasmania's vegetation (including references that will assist in identifying plant communities and species).

The Regional Modules are designed to be self-contained reference units for FPOs, therefore there is a fair degree of repetition in the different modules. Although it has a common general thrust, much of the material (for example explanatory notes in Sections 2, 3, 4 and 5 of the Regional Modules) caters specifically for a region. It is essential that FPOs read the explanatory notes, as they will assist in evaluating regional flora issues and developing appropriate prescriptions.

## TASMANIAN IBRA 4 BIOREGIONS

Locations of bioregions used in the *Forest Botany Manual* are shown below. More complete details of bioregional boundaries and attributes are provided in the regional modules.



## PREPARING FOREST PRACTICES PLANS

### When is a Forest Practices Plan needed?

A Forest Practices Plan (FPP) is needed for any operation where the area of forest logged or cleared exceeds a hectare per rateable property in a year; or the timber volume exceeds 100 tonnes (whatever is the lesser). A FPP is needed for most operations on vulnerable land (for example, land that contains threatened species or communities).

Forest is defined as any area containing woody plants, with the height or potential height of 5 metres or more, that are native to Tasmania or have been introduced for timber production. This definition of forest means that some vegetation types that weren't identified as forest under the Tasmanian RFA (for example some scrub communities) may need FPPs.

FPPs are needed for plantation establishment on previously cleared sites over 10 ha in area (and under some circumstances less than 10 ha). Specialist advice may be needed if such cleared areas still support native vegetation (e.g. native grasslands) or contain threatened species. Commercial harvesting of tree ferns (*Dicksonia antarctica*) is only permitted in specified FPP areas (primarily areas that will be converted from native forest to another land use). FPPs are not needed for some clearing associated with infrastructure development or safety issues.

Full details of when FPPs are required can be accessed from the FPA website: [www.fpa.tas.gov.au](http://www.fpa.tas.gov.au). Contact the FPA if there is any doubt about whether proposed logging or clearing needs a FPP.

### Forest Practices Plan Flora Evaluation

Evaluation Sheets for natural and cultural values need to be completed by FPOs as part of the assessment of proposed FPP areas. The *Flora Evaluation Sheet* allows FPOs to assess communities, species and other botanical issues associated with the proposed operation (within and outside the boundary of the FPP area). The format of the evaluation sheet (see Appendix 2) follows the format of the Regional Modules. The *Flora Evaluation Sheet* has triggers that indicate to FPOs when advice is needed from FPA Botanist or FPA Ecologist.

### Planning tools

The Regional Modules can be considered as the primary planning tool for FPOs. Each section of the module has detailed instructions on its use, which are not repeated here.

Other vegetation planning tools available to FPOs are described below.

#### *Flora Technical Notes*

A series of Flora Technical Notes provides additional information about botanical issues that are relevant to forest management and preparation of FPPs. The Manual and the *Flora Evaluation Sheet* refer to these technical notes where appropriate. They provide prescriptions or guidelines for operational planning for some operations. A list of Flora Technical Notes is given in Appendix 4.

#### *Forest Practices Authority website*

Botanical information on the FPA website ([www.fpa.tas.gov.au](http://www.fpa.tas.gov.au)) is a valuable adjunct to the *Forest Botany Manual*. It includes:

- Scanned images of all species used to classify communities;
- Scanned images of numerous other forest and non-forest species, including threatened species that might be encountered in forestry operations;
- Keys to Tasmanian forest species;
- Flora Technical Notes;
- Links to other sites relevant to management of flora in Tasmanian forests.

Botanical information on the FPA website will be updated regularly – useful contributions and comments on changes and additions are appreciated.

### ***Threatened Flora of Tasmania website***

Excellent information about threatened plant species can be obtained from the Threatened Flora of Tasmania website (<http://www.gisparks.tas.gov.au/ThreatenedFloraCD/>). This site contains individual PDF files of all plant species listed on Schedules of the *Threatened Species Protection Act*. The files contain an image of the species (which could be useful in field verification) as well as information on habitat, distribution and conservation management.

### ***Forestry Tasmania and DPIWE databases***

Databases developed and maintained by Forestry Tasmania (FT) and Dept of Primary Industries, Water and Environment (DPIWE) are important tools in assessing the botanical values of an area. They are particularly useful to determine if threatened species have been recorded within or close to a proposed operational area – the *Flora Evaluation Sheet* requires that an approved database is used for this purpose. The databases also contain other information relevant to preparing FPPs. This includes maps showing distribution of plant communities; known *Phytophthora cinnamomi* sites; location of formal and informal reserves; and information on other natural and cultural values.

Attributes and access details are given below for both databases.

#### NewCONSERVE

NewCONSERVE is managed by Forestry Tasmania. It is an integrated management database that provides user-friendly access to special values data for strategic and field-based planners. Through NewCONSERVE, FPOs can access Conservation Enquiry Maps and Conservation Enquiry Reports for specific coupes or map coordinates.

A Conservation Enquiry Map indicates the natural and cultural values occurring within 4 km of the point entered. This includes known locations of threatened plant and animal species; occurrences of *Phytophthora cinnamomi*; and geoconservation and cultural sites. The maps also show the distribution of forest communities identified in the RFA as requiring protection on public land (note that RFA vegetation maps are not suitable for the level of vegetation analysis needed for preparation of FPPs: thorough field assessment is required to determine communities present in the operational area). Tenure information, including boundaries of formal and informal reserves [including Special Management Zones (Flora) on State Forest] may also be relevant to forest practices planning. The associated Conservation Enquiry Reports provide more detailed information on the locations of identified values.

Internal access to NewCONSERVE is available, via the intranet, for Forestry Tasmania FPOs.

External access to NewCONSERVE is available for FPOs who do not work for Forestry Tasmania, via FT's web-based Mapcomposer. A schedule outlines the types of maps and data available, as well as the process and costing structure. The user fills out a standard personal access form, requesting external access to the information system. Once access is established, a coupe name or map coordinates can be used to generate the required Conservation Enquiry Map and Conservation Enquiry Report. Enquiries about using this database should be directed to FT's Conservation Planning Section.

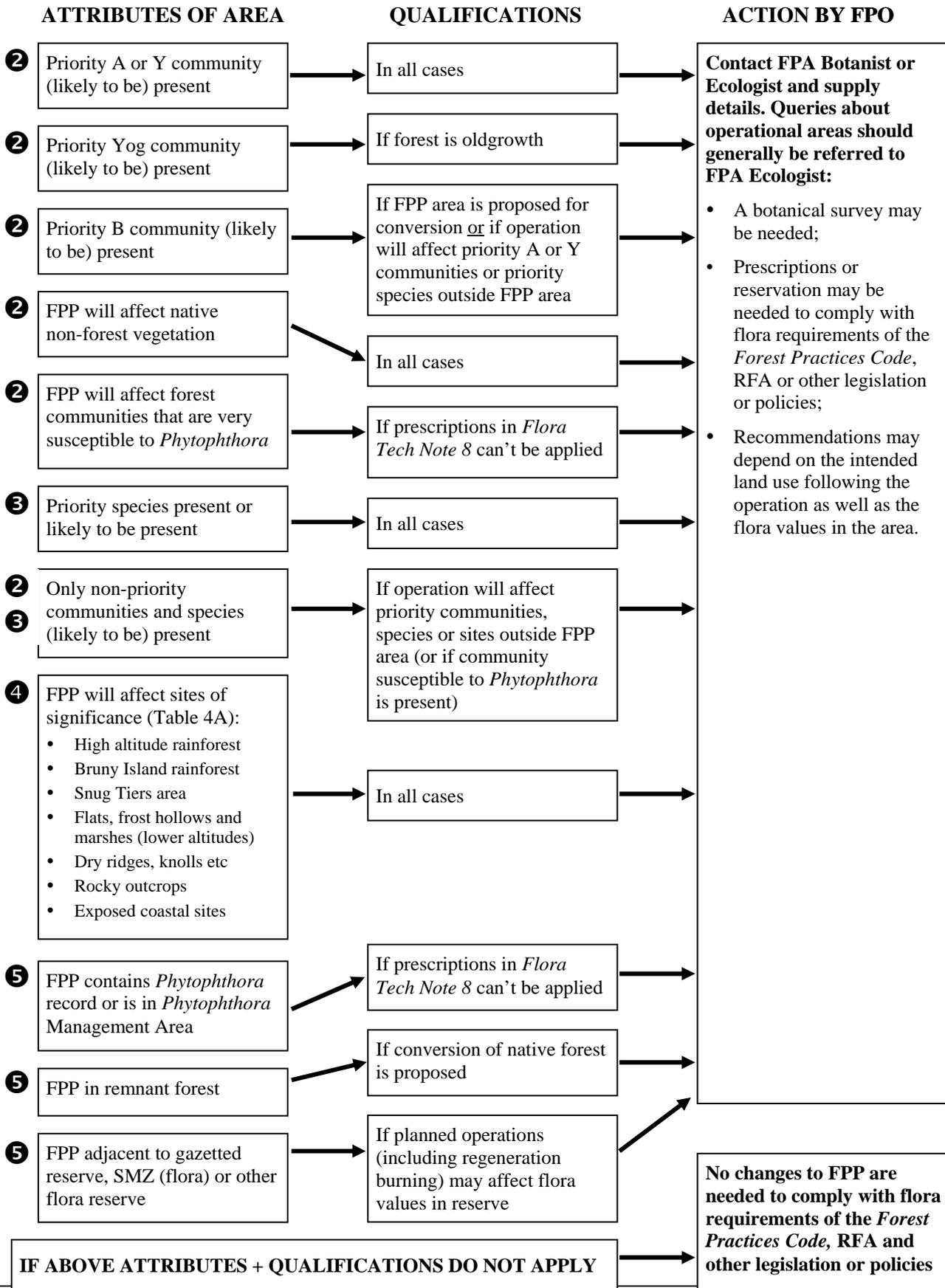
#### GTSpot

GTSpot is managed by DPIWE. It is a useful database for FPOs to determine the potential environmental impacts of proposed developments. After entering a grid reference for the area of interest, a report is generated. The report lists records for threatened species known to occur within 500 m and 5 km from the point entered, and plots maps of forest and non-forest communities (TASVEG maps), wilderness values and geoconservation values. Users can determine the potential for threatened species on the property by correlating threatened species records, information on plant communities in the FPP area, and descriptions of threatened species habitat (e.g. from the Threatened Flora of Tasmania website). As is the case with NewCONSERVE, TASVEG maps at this scale should be considered as indicative only – a field assessment is always needed to determine plant communities in proposed operational areas.

Access to GTSpot is available from the GIS server on the DPIWE website: [www.gisparks.tas.gov.au](http://www.gisparks.tas.gov.au). Prospective users need to register by submitting a user ID form (available on this site). The database has an extensive online user guide. As well as information on distribution of threatened species, plant communities and other natural values, information on conservation-oriented management of bushland can also be accessed.

## ASSESSING THE FLORA VALUES OF AN AREA

The flow diagram from the D'Entrecasteaux Region Module summarises the process for evaluating flora issues in FPP areas. Numbers on the left of the diagram refer to relevant sections in the regional module.



## REFERENCES

Only references cited in the *Forest Botany Manual* are listed below. *Flora Technical Note 2* gives a more complete list of references that may be useful for FPOs and other forest workers.

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## Appendix 1: Sections of *Forest Practices Code* dealing with flora management and conservation

Sections of the *Forest Practices Code* 2000 that deal primarily with management and conservation of flora are given below. There are several other sections of the *Forest Practices Code* that address flora issues, often in association with other aspects of forest management. The Code can be accessed on the FPA website ([www.fpa.tas.gov.au](http://www.fpa.tas.gov.au)).

### D. CONSERVATION OF NATURAL AND CULTURAL VALUES

#### General Principles

The forest practices system contributes to the conservation of natural and cultural values at State and regional levels. Such values can occur in forest and non-forest environments.

Conservation of environmental diversity (biodiversity, including flora, fauna, threatened species, and genetic resources; landscape; cultural heritage; and geodiversity, including soils and landforms;) will be principally catered for in a systematic reserve system on public land, by a voluntary private land reserve system, and by management prescriptions in production forests.

Natural and cultural values in adjacent reserves should be considered during the planning and conducting of forest operations.

Management of natural and cultural values should be integrated where possible.

Resource manuals and other available information on flora, fauna, threatened species, cultural heritage, geomorphology, landscape and soils will be consulted where appropriate.

The main provisions dealing with the conservation of natural and cultural values are detailed below. Numerous other provisions in this Code affect these values, but have not been repeated in this section.

Measures taken to conserve natural and cultural values will be consistent with effective fire management, silvicultural practices and safety requirements.

#### Basic Approach

Natural and cultural values should be assessed at the strategic or property level, and will be evaluated during the preparation of Forest Practices Plans.

Requirements for the conservation of natural and cultural values, including specific sites, should be recorded to aid in future decision making and ensure continuity of management.

Areas of high conservation significance may be designated as special management zones where there is agreement with the landowner. Forestry operations in special management zones will comply with the agreed management recommendations to ensure maintenance of natural and cultural values. Advice should be sought from an appropriate specialist before conducting any forest operations.

The sustainable management of natural and cultural values within production forests under the forest practices system will be determined in accordance with:

relevant legislation, including the *National Parks and Wildlife Act* 1970, *Threatened Species Protection Act* 1995, *Aboriginal Relics Act* 1975, *Forestry Act* 1920, Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999, and State Policies;

the Tasmanian *Regional Forest Agreement* 1997 (including the provisions for the Comprehensive Adequate and Representative reserve system);

the policy for maintaining a Permanent Forest Estate;

policy mechanisms that relate to State forest;

the duty of care of landowners under the provisions of this Code, which is defined as the fundamental contribution of the landowner to the conservation of natural and cultural values that are deemed to be significant under the forest practices system. The landowners' duty of care includes:

- all measures that are necessary to protect soil and water values as detailed in this Code;
- the reservation of other significant natural and cultural values. This will be at a level of up to 5% of the existing and proposed forest on the property for areas totally excluded from operations. In circumstances where partial harvesting of the reserve area is compatible with the protection of the values, the level will be up to 10%. The conservation of values beyond the duty of care is deemed to be for the community benefit and should be achieved on a voluntary basis or through compensation mechanisms where available.

### **D3. Flora and Fauna**

#### **General Principles**

Conservation of flora and fauna is assisted by the maintenance and restoration of habitat, the enhancement of opportunities for recolonisation of disturbed areas, and the linking of forest areas to allow genetic interchange.

Maintenance of the genetic resources of native forest is assisted by the retention of native flora and fauna in formal and informal reserves including wildlife habitat strips and streamside reserves dispersed throughout the forest, and the use of seed sources native to the site when regenerating forests. Generally, retention of forest with oldgrowth characteristics is preferable to retention of regrowth of the same forest type.

#### **Basic Approach**

Planning for flora and fauna conservation should initially be carried out at a regional level (e.g. whole property, forest block or district forest management plan). At this level:

- strategies should be developed to maintain species diversity, particularly in extensive plantation areas and other intensively managed areas;
- dispersed coupes should be considered;
- management agreements should be considered between the landholder and DPIWE for threatened species, particularly those with a restricted range.

As far as practicable, areas of retained vegetation (including wildlife habitat strips) should include localised features associated with:

- threatened species;
- species with disjunct or unusual distributions;
- sites with high species diversity;
- inadequately reserved communities;
- forests that have oldgrowth characteristics;
- other significant biological values (e.g. important research sites).

In parts of the State where native forests occur mainly as remnants, consideration will be given to:

- retention of native forest remnants to aid in the maintenance of local flora and fauna diversity and landscape values;
- restoration of habitat including widening and linking wildlife habitat strips, particularly where species and communities of high conservation significance are known to occur.

## D3.1 Flora conservation

### General Principle

The general requirements and guidelines for conservation of significant flora values are outlined in the *Forest Botany Manuals*. Other sources of information include vegetation maps, the flora databases held by Forestry Tasmania and DPIWE and advice from specialists.

### Basic Approach

#### *Planning and Assessment*

See also Section D3 above.

Planning for broad areas of forest will require the consideration of the conservation requirements of plant communities and species, maintenance of values in formal and informal reserves, and other flora-related issues.

During the preparation of a Forest Practices Plan the proposed operational area will be assessed to determine:

- the plant communities present;
- whether threatened plant species are known or likely to occur;
- whether other significant flora values are known or likely to occur.

#### *Site Management for Flora in Native Forests*

Disturbance to native vegetation in localised environments (such as rocky knolls, swamps, heaths, and streambanks) should be avoided or minimised. These environments are associated with plant communities and species with a priority for conservation, and are important in maintaining diversity at a local level.

Vegetation that is susceptible to *Phytophthora cinnamomi* (e.g. swamps, heaths, sedgelands, dry lowland forest on sandy or poorly drained sites, and low altitude rainforest on infertile sites), should be protected from accidental infection by the fungus by the implementation of hygiene measures.

Patches of myrtle or rainforest that are to be retained should be protected from fire, damage and disease (notably myrtle wilt). This may require buffering of some patches (e.g. by extending streamside reserves) and avoiding or minimising damage during road construction or maintenance.

Measures should be taken to ensure exotic weed species, (e.g. pampas grass, ragwort, blackberry and Spanish heath), do not become established in native forest, particularly reserves. Native forest most at risk includes areas adjoining plantations, and drier forest types in general. Machinery should be washed down before being transported from one area to another, particularly when moving from infested to uninfested areas.

Consideration should be given to the protection (e.g. by buffering) of native forests, particularly reserves, from incursion by adjoining plantation species. For example, dry forests may be invaded by radiata pine, and some planted eucalypts may hybridise with related species in adjacent native forest.

Disturbance to localised environments rich in epiphytic species should be avoided or minimised, particularly in drier parts of Tasmania. Such environments include relict or oldgrowth rainforest, dense patches of musk or manferns and sheltered boulderfaces. If possible, trees should not be felled into or yarded across these environments, partly to reduce the volume of slash and consequently the intensity of regeneration burns. Epiphytic species will recover most rapidly on sites which are not subjected to high intensity burning.

## D3.3 Threatened species and inadequately reserved plant communities

### Basic Approach

Management of threatened flora and fauna species and inadequately reserved plant communities are covered by legislation and processes that include the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, the Tasmanian *Threatened Species Protection Act 1995*, the *National Parks and Wildlife Act 1970*, and the *Tasmanian Regional Forest Agreement 1997*.

Threatened species and inadequately reserved plant communities will be managed in wood production areas in accordance with procedures agreed between the Forest Practices Authority and DPIWE. The agreed procedures will include the development of endorsed management prescriptions through consultation among landowners, Forest Practices Officers and specialists within the Authority and DPIWE. Under the agreed procedures Forest Practices Officers will:

- consult the *Forest Botany Manuals*, the *Threatened Fauna Manual for Production Forests in Tasmania*, and the *Threatened Fauna Adviser* to determine if threatened species or inadequately reserved plant communities occur or are likely to occur in the operational area;
- notify the appropriate specialist within the Forest Practices Authority if threatened species or inadequately reserved plant communities occur or are likely to occur in the operational area;
- obtain an endorsed management prescription for the operational area and incorporate this prescription into the Forest Practices Plan. This may involve further consultation between the Forest Practices Officer, the landowner, and specialists within the Forest Practices Authority and DPIWE.

The conservation of threatened species and inadequately reserved plant communities may be achieved by reservation or prescription in accordance with the duty of care policy, voluntary arrangements such as the Private Forest Reserves Program, or through legislative processes as mentioned above.

## Appendix 2: Forest Practices Plan Flora Evaluation Sheet

The format of the Forest Practices Plan *Flora Evaluation Sheet* is presented below.

<b>NATURAL AND CULTURAL VALUES EVALUATION SHEET</b>	
<b>1. Flora</b>	
Name .....	Date .....

### VEGETATION COMMUNITIES

#### Native forest vegetation

- *Floristic communities*: Use the keys in Section 2 of the *Forest Botany Modules* to identify floristic communities in the proposed operation area (after field inspection). Most native forest coupes will have 3 or more communities. Indicate the conservation priority for each community (A, B or np).
- *RFA communities*: Use the tables in Section 2 of the *Forest Botany Modules* to determine the equivalent RFA communities, based on the identified floristic communities. Most coupes have fewer RFA communities than floristic communities. Indicate the conservation priority and area for each RFA community (Y, Yog or N). There is no need to give areas of individual floristic communities if they combine into one RFA community. Note that the planned harvest area of each RFA community is needed for the FPP cover page.

#### Other vegetation

- Use Section 2 of the *Forest Botany Modules* to determine *other native non-forest vegetation types* in the proposed operation area. All native non-forest vegetation types are Priority A communities.
- List *exotic vegetation* (e.g. plantations, pasture) by categories used in the FPP database. Include brackenfields in this section. All exotic vegetation types are non-priority (N) communities.

#### Native forest vegetation (use code or long name)

Floristic community	Priority	RFA community	Priority	Area (ha)	Area in final FPP (ha)

#### Other native non-forest vegetation (use code or long name)

	A		

#### Exotic vegetation (use code or long name)

	N		

Contact the FPA Senior Ecologist if the proposed operation area contains:

For floristic communities and other native vegetation types:

- Priority A communities; or
- Priority B communities if the area will not be regenerated to native forest.

For RFA communities:

- Priority Y or Yog communities. Note: only contact the FPA Senior Ecologist for communities with a conservation priority of Yog if forest in the proposed operation area is old-growth.

**PRIORITY SPECIES**

List any known localities of priority species that may be impacted upon by the proposed operations. This includes all sites within the proposed operation area, any sites potentially affected by associated activities (e.g. carting), and any sites adjacent to the proposed operation area that occur in similar habitats present in the proposed operation area.

Use Section 3 of the *Forest Botany Modules* for information on priority species (threatened species and other species with a priority for conservation in the region). Many priority species are distinctive and will be recognised by FPOs if encountered in the field, but others are seasonal or difficult to identify. It is therefore essential to check an endorsed threatened species database for known records in or near the area (within a minimum distance of 2 km).

Sources used to check priority species locations (check box or **bold** appropriate option):

CONSERVE     GTSPOT     OTHER (specify): .....    Date checked: .....

Species (scientific name)	Locality (grid reference – indicate GDA or AGD)

Contact the FPA Senior Ecologist if:

- *Priority species are known or likely to be present in the proposed operation area, or are likely to be affected by the proposed operations.*

**SITES OF POTENTIAL SIGNIFICANCE FOR FLORA**

Use Section 4 of the *Forest Botany Modules* to indicate if the proposed operation area supports any sites of potential significance for flora listed in Table 4A. List sites below and comment on potential significance and effects.

•

Contact the FPA Senior Ecologist if:

- *The proposed operation area contains any sites of potential significance for flora identified in Table 4A that could be affected by the proposed operations.*

Use Section 4 of the *Forest Botany Modules* to indicate if the proposed operation area supports any sites of potential significance for flora listed in Table 4B. List sites below and comment on potential significance and effects.

•

Contact the FPA Senior Ecologist if:

- *The proposed operation area contains any sites of potential significance for flora identified in Table 4B that could be affected by the proposed operations where potentially significant values have been identified (e.g. priority species or communities) by site assessment or databases (note that in most cases these values will be identified in the preceding sections on vegetation types and priority species).*

**OTHER FLORA ISSUES – PHYTOPHTHORA CINNAMOMI (PC)**

1. Is the proposed operation area in an area where PC is known to occur, or in a PC-sensitive vegetation type [refer to FPA *Flora Technical Note No. 8* “*Phytophthora cinnamomi* management in production forests” for a list of communities]?

YES     NO    (check box or **bold** appropriate option)

If YES, provide details below (e.g. community present, locations of any PC sites, and management prescriptions). Management prescriptions for the proposed operations can be obtained from the FPA *Flora Technical Note No. 8* “*Phytophthora cinnamomi* management in production forests”.

•

Contact the FPA Senior Ecologist if:

- *The guidelines in Flora Technical Note No .8 cannot be applied.*

2. Is the proposed operation area, or activities associated with the proposed operations (e.g. road construction), within a PC management area [check MDC mapping, or refer to FPA *Flora Technical Note No. 8 “Phytophthora cinnamomi management in production forests”*]?

YES       NO      (check box or **bold** appropriate option)

If YES, provide details below (e.g. name of PC management area, management prescriptions). Management guidelines for the proposed operations can be obtained from the FPA *Flora Technical Note No. 8 “Phytophthora cinnamomi management in production forests”*.

*For State forest operations:*

- ***Specific advice must be sought from Forestry Tasmania’s Forest Pathologist (03 62 33 8205).***

*Contact the FPA Senior Ecologist if:*

- ***The guidelines in Flora Technical Note No. 8 cannot be applied and/or the recommendations of the Forest Pathologist cannot be applied.***

**OTHER FLORA ISSUES – EFFECTS ON RESERVES**

Indicate if the proposed operation area is within or adjacent to:

- Formal reserves (e.g. World Heritage Area, State Reserve, Forest Reserve);
- Informal reserves (that have been dedicated as such for their flora values e.g. CAR informal reserves);
- Special Management Zones for Flora;
- Private land reserves (e.g. Private Forest Reserves Program, Protected Areas on Private Land, etc.)

Reserve (name)	Potential impacts (e.g. disease, weeds, fire, mechanical damage)

*Contact the FPA Senior Ecologist if:*

- ***The proposed operation area is within or adjacent to any of the situations above. In some situations, additional advice may need to be sought from the land manager of the reserve.***

**OTHER FLORA ISSUES – REMNANT FOREST**

Is the proposed operation area located in an area of remnant native forest in an otherwise cleared or plantation landscape?

YES       NO      (check box or **bold** appropriate option)

*Contact the FPA Senior Ecologist if:*

- ***The proposed operation area supports remnant native vegetation that will not be largely protected by any of the other provisions of the Forest Practices Code (including WHSs, WHCs, SSRs, etc.); or***
- ***The proposed operation area is located in an area of remnant native forest AND the site will be cleared for agriculture, plantation establishment or other permanent land use change.***

**PRESCRIPTIONS**

List any prescriptions to be incorporated into the FPP for flora conservation (e.g. management of communities or species, weeds or disease). Indicate DRAFT if advice is being sought. Indicate FINAL where advice is not required or the prescriptions result from advice already received from the FPA Senior Ecologist. Ensure that the final prescriptions are inserted into all relevant sections of the FPP.

DRAFT / FINAL (circle or **bold** appropriate option)

-

**INFORMATION REQUIRED TO BE SENT WITH NOTIFICATION TO FPA SENIOR ECOLOGIST**

When sending a notification to the FPA Senior Ecologist for advice on flora management issues include with the completed evaluation sheet and notification cover sheet:

1. A (preferably colour) 1: 10 000 map (or equivalent) indicating the following (where relevant):
  - Floristic and/or RFA vegetation types (as a minimum, the location and extent of any vegetation types with a high priority for conservation management at either the floristic or RFA level of classification should be shown);
  - PI types (or broad age class and level of disturbance);
  - Stream class (and any additional stream management prescriptions);
  - Location of any priority species within the proposed operation area or those that may be affected by the proposed operations (e.g. *Phytophthora* management issues);
  - Distribution of any potential habitat for threatened species identified during field assessment;
  - Areas where wildlife habitat clumps are to be retained, wildlife habitat strips, streamside reserves, any other areas to be retained for fauna values or other special values;
  - Harvest areas and silvicultural prescription to be applied;
  - Any specific prescriptions for flora (e.g. vegetation types proposed for exclusion, widened streamside reserves, etc.).
2. A 1:25 000 map showing the location of the proposed operations and surrounding land use.
3. Specialist reports or advice, where available. This may include details of flora surveys previously conducted in the area (e.g. by FPA, FT, DPIWE or consultants).

## Appendix 3: Forest Practices Plan database codes for forest communities and other vegetation types

The following tables list the RFA and FPP database codes for:

- RFA forest communities that have been identified from Tasmania;
- Other broad vegetation types (as used in the FPP database).

RFA communities with Statewide conservation priorities or requirements are indicated as follows:

- Communities that are Rare (R), or Vulnerable (V) or Endangered (E);
- Other communities that require protection on public land for oldgrowth and non-oldgrowth (P);
- Other communities that require protection on public land for oldgrowth only (Pog).

### RFA forest communities

RFA forest community	RFA Code	FPP database code	Statewide status
Coastal <i>E. amygdalina</i> dry sclerophyll forest	AC	1	
<i>E. amygdalina</i> forest on dolerite	AD	2	
Inland <i>E. amygdalina</i> forest**	AI	3	V
<i>E. amygdalina</i> forest on sandstone	AS	4	V
<i>Allocasuarina verticillata</i> forest	AV	5	
<i>E. brookeriana</i> wet forest	BA	6	V
<i>Acacia melanoxylon</i> forest on flats	BF	7	
<i>Acacia melanoxylon</i> forest on rises	BR	8	
<i>Banksia serrata</i> woodland	BS	9	E
<i>E. coccifera</i> dry forest	C	10	
<i>Callitris rhomboidea</i> forest	CR	11	V
Dry <i>E. delegatensis</i> forest	D	12	
<i>E. viminalis</i> / <i>E. ovata</i> / <i>E. amygdalina</i> / <i>E. obliqua</i> damp sclerophyll forest	DSC	13	Pog
Tall <i>E. delegatensis</i> forest	DT	14	
King Billy pine forest with deciduous beech forest	F	15	R V
<i>E. viminalis</i> and/or <i>E. globulus</i> coastal shrubby forest	G	16	R V
Grassy <i>E. globulus</i> forest	GG	17	V
Huon pine forest	H	18	
King Island <i>E. globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> forest	KG	19	R E
<i>Leptospermum</i> species / <i>Melaleuca squarrosa</i> swamp forest	L	20	
Callidendrous and thamnic rainforest on fertile sites	M+	21	
Thamnic rainforest on less fertile sites	M-	22	
<i>Melaleuca ericifolia</i> forest	ME	23	R E
<i>E. morrisbyi</i> forest	MO	24	R E
Dry <i>E. nitida</i> forest	N	25	
Furneaux <i>E. nitida</i> forest	NF	26	
<i>Notelaea ligustrina</i> / <i>Pomaderris apetala</i> forest	NP	27	R E

\*\* Inland *E. amygdalina* forest was split into two distinct communities in 2005: Inland *E. amygdalina* - *E. viminalis* - *E. pauciflora* forest/woodland on Cainozoic deposits (AIC) and *E. amygdalina* forest on mudstone (AM). AIC retains its

status as a Vulnerable community. AM is a non-threatened community, though oldgrowth stands require protection on public land. More information on these communities is given in the Regional Modules.

RFA forest community	RFA Code	FPP database code	Statewide status
Tall <i>E. nitida</i> forest	NT	28	
Dry <i>E. obliqua</i> forest	O	29	
Tall <i>E. obliqua</i> forest	OT	30	
Shrubby <i>E. ovata</i> / <i>E. viminalis</i> forest	OV	31	E
<i>E. pulchella</i> / <i>E. globulus</i> / <i>E. viminalis</i> grassy shrubby dry sclerophyll forest	P	32	
Pencil Pine with deciduous beech forest	PD	33	R V
<i>E. pauciflora</i> forest on Jurassic dolerite	PJ	34	Pog
Pencil Pine forest	PP	35	R V
<i>E. pauciflora</i> forest on sediments	PS	36	
<i>E. regnans</i> forest	R	37	
<i>E. risdonii</i> forest	RI	38	R
<i>E. rodwayi</i> forest	RO	39	P
<i>E. sieberi</i> forest on granite	SG	40	Pog
Silver wattle ( <i>Acacia dealbata</i> ) forest	SI	41	
<i>E. sieberi</i> forest on other substrates	SO	42	Pog
<i>E. subcrenulata</i> forest	SU	43	
<i>E. tenuiramis</i> forest on granite	T	44	
<i>E. tenuiramis</i> forest on dolerite	TD	45	
Inland <i>E. tenuiramis</i> forest	TI	46	V
<i>E. viminalis</i> grassy forest/woodland	V	47	P
Furneaux <i>E. viminalis</i> forest	VF	48	R E
Wet <i>E. viminalis</i> forest on basalt	VW	49	E
King Billy pine forest	X	50	V

#### Other broad vegetation types (as used in the FPP database)

Vegetation type	Code	FPP database code
Non-forest – Brackenfield	NFB	51
Non-forest – Native grassland	NFG	52
Non-forest – Heath/scrub	NFH	53
Non-forest – Moorland/sedgeland	NFM	54
Non-forest – Other non-forest	NFO	55
Non-forest – Pasture	NFP	56
Plantation – <i>Acacia melanoxylon</i> (blackwood)	PAM	57
Plantation – <i>E. globulus</i>	PEG	58
Plantation – <i>E. nitens</i>	PEN	59
Plantation – <i>E. regnans</i>	PER	60
Plantation – Other hardwood	POH	61

Plantation – Other softwood	POS	62
Plantation – <i>Pinus radiata</i>	PPR	63

## Appendix 4: Flora Technical Notes

Details of current and proposed Flora Technical Notes are given below. They can be downloaded as PDF files from the FPA website.

No	Title
1	<i>Management of botanical values through Tasmania's Forest Practices System</i>
2	<i>Useful references for forest flora</i>
3	<i>Collecting and preserving plant specimens</i>
4	<i>Relict rainforest and its management</i>
5	<i>Tree fern identification and management</i>
6	<i>Identification and management of Sphagnum peatlands</i>
7	<i>Assessment and management of oldgrowth forest</i>
8	<i>Management of Phytophthora cinnamomi in production forests</i>
9	<i>Management of myrtle wilt in production forests</i>
10	<i>Management of rocky outcrops</i>
11	<i>Managing effects of forestry operations on adjacent reserves</i>

## Appendix 5: Glossary of abbreviations and terms

### Abbreviations

DPIWE	Department of Primary Industry, Water and Environment, Tasmania
FPA	Forest Practices Authority
FPC	<i>Forest Practices Code</i> (2000)
FPO	Forest Practices Officer
FPP	Forest Practices Plan
FT	Forestry Tasmania
IBRA	Interim Biogeographic Regionalisation of Australia
RFA	<i>Tasmanian Regional Forest Agreement</i> (signed by Tasmanian and Commonwealth governments in 1997)
SMZ	Special Management Zone (part of Forestry Tasmania's land use classification system)
TSPA	<i>Threatened Species Protection Act</i> 1995
WHA	World Heritage Area

### Terms relating to application of forest practices regulations

The following terms are defined in the *Forest Practices Act*. Only terms of a botanical nature are given here:

**Forest** means an area containing trees.

**Trees** means –

- (a) any woody plants with a height or potential height of 5 metres or more, whether or not living, dead, standing or fallen, that are –
  - (i) native to Tasmania; or
  - (ii) introduced into Tasmania and used for the processing or harvesting of timber; and
- (b) tree ferns.

**Tree fern** means a plant of the species *Dicksonia antarctica*.

*Note that the definition of forest in the Forest Practices Act means that FPPs may be needed for some vegetation types that were not identified as forest under the Tasmanian RFA (e.g. some scrub communities).*

### Terms relating to vegetation and environment

#### Terms relating to plant groups and species

Bryophyte – Moss or liverwort

Endemic – Species only occurring naturally in a specific area (e.g. Tasmanian endemics only occur naturally in Tasmania)

Epacrid – Member of the heath family (family Epacridaceae)

Epiphyte – A plant growing on another plant, but not as a parasite (e.g. many species of ferns grow as epiphytes on the trunks of rainforest trees and manferns)

Flora – Vegetation generally (e.g. flora conservation)

- Plant species occurring in a particular area or habitat (e.g. alpine flora, rainforest flora)
- Book describing plant species of an area or habitat (e.g. *The Endemic Flora of Tasmania*)

Graminoid – Grass-like species (e.g. sedges, saggs, lilies)

Grass – Member of the grass family (family Poaceae): note that some species commonly called grasses, such as buttongrass and cutting grass are actually sedges

Legume – Member of the pea family (family Fabaceae)

Monocots (monocotyledons) – Member of the suborder of flowering plants (Angiosperms) that includes grasses, sedges, orchids and other graminoids

Non-vascular species – Plant species that do not have an internal water transport system, comprising bryophytes (mosses and liverworts), lichens and fungi

Provenance – A genetically-similar population of a species that occurs naturally in the same area

Rush – Members of the rush family (family Juncaceae)

Sedge – Members of the sedge family (family Cyperaceae)

Vascular species – Plant species that have an internal water transport system, comprising pteridophytes (ferns and fern allies), gymnosperms (conifers) and angiosperms (flowering plants)

Wattle – Members of the *Acacia* genus

### **Terms relating to vegetation composition and structure**

Dominant – A species (or other vegetation unit) that provides the greatest cover in a particular layer or area (e.g. myrtle is the dominant tree in Callidendrous 1.1 rainforest; dogwood is the dominant understorey species in many Tasmanian wet sclerophyll forest communities; and dry sclerophyll forests are the dominant forest type in Freycinet Region).

Forest (definition for purposes of application of Forest Practices Regulations) – any area containing woody plants, with the height or potential height of 5 metres or more, that are native to Tasmania or have been introduced for timber production. This definition of forest means that FPPs may be needed for some vegetation types that aren't identified as a forest community in the Tasmanian RFA (for example some scrub communities). Areas of woodland and open woodland will also qualify as forest in most circumstances.

Forest (structural definition) – Vegetation with trees having a projected canopy cover >30 %

Woodland – Vegetation with trees having a projected canopy cover of 10-30 %.

Open woodland – Vegetation with trees having a projected canopy cover of <10 %

Tall (tree layer) – Tree layer is more than 30 m in height

Low (tree layer) – Tree layer is less than 10 m in height

### **Terms relating to vegetation types**

*Note: This glossary gives concise definitions of major Tasmanian vegetation type that are dominated by trees and shrubs. More complete definitions are given in the regional modules, and in many of the texts referenced in the Manual (see also Flora Technical Note 2).*

Community – Recognisable association of plant species, generally occupying similar environments across their range

Dry sclerophyll forest – Forest mainly dominated by eucalypts, with an understorey generally dominated by hard-leaved shrubs, and/or a ground layer dominated by bracken, grasses or graminoids

Heath – Vegetation dominated by woody shrubs less than 2m in height

Mixed forest – Forest dominated by eucalypts, with a rainforest understorey

Rainforest – Forest dominated by rainforest species

Swamp forest – Forest dominated by blackwood, tea-trees or paperbarks, occupying poorly drained flats

Scrub – Vegetation dominated by woody shrubs between 2m and 8m in height

Wet sclerophyll forest – Forest dominated by eucalypts, with an understorey generally dominated by soft-leaved or broad-leaved shrubs, or tall tea-trees or paperbarks

## Appendix 6: Names of species in regional module keys

The scientific and common names of species used in the community keys in the regional modules are included in this appendix. All Tasmanian eucalypt species and some other species that are commonly found in native forest are also listed. Current scientific and common names (as used in Tasmania) are indicated. Alternative names are given in brackets for species that have had recent changes to their scientific names, and for species with regional variation in common names. Scans of most of the species are available on the Forest Practices Authority's website.

Species are arranged in natural groups, then alphabetically by genera. The common names are listed alphabetically. Species nomenclature follows Buchanan, A.M. (ed.) (2004) *A Census of the Vascular Plants of Tasmania (2004 Edition)*. This can be downloaded as a PDF from the Tasmanian Herbarium website: [www.tmag.tas.gov.au/Herbarium](http://www.tmag.tas.gov.au/Herbarium).

### PTERIDOPHYTES (Ferns and Fern Allies)

<i>Blechnum</i> species – water ferns, leech fern	Bats wing fern – <i>Histiopteris incisa</i>
<i>Blechnum nudum</i> – fishbone fern	Bracken – <i>Pteridium esculentum</i>
<i>Blechnum watsii</i> – hard water fern	Cat head fern – <i>Polystichum proliferum</i>
<i>Crepidomanes venosum</i> – filmy fern	Coral ferns – <i>Gleichenia</i> species
<i>Ctenopteris heterophylla</i> – gypsy fern	Fan ferns – <i>Sticherus lobatus</i>
<i>Cyathea australis</i> – rough tree fern	Filmy fern – <i>Crepidomanes venosum</i>
<i>Cyathea cunninghamii</i> – slender tree fern	Filmy ferns – <i>Hymenophyllum</i> species
<i>Dicksonia antarctica</i> – manfern (soft tree fern)	Finger ferns – <i>Grammitis</i> species
<i>Gleichenia</i> species – coral ferns	Fishbone fern – <i>Blechnum nudum</i>
<i>Grammitis</i> species – finger ferns	Fork ferns – <i>Tmesipteris</i> species
<i>Histiopteris incisa</i> – bats wing fern	Ground ferns – <i>Hypolepis</i> species
<i>Hymenophyllum</i> species – filmy ferns	Gypsy fern – <i>Ctenopteris heterophylla</i>
<i>Hypolepis</i> species – ground ferns	Hard water fern – <i>Blechnum watsii</i>
<i>Hypolepis rugosula</i> – ruddy ground fern	Kangaroo fern – <i>Microsorium pustulatum</i>
<i>Microsorium pustulatum</i> – kangaroo fern	King fern – <i>Todea barbara</i>
<i>Polystichum proliferum</i> – cat head fern	Leathery shield fern – <i>Rumohra adiantiformis</i>
<i>Pteridium esculentum</i> – bracken	Manfern (soft tree fern) – <i>Dicksonia antarctica</i>
<i>Rumohra adiantiformis</i> – leathery shield fern	Rough tree fern – <i>Cyathea australis</i>
<i>Sticherus</i> species – fan ferns	Ruddy ground fern – <i>Hypolepis rugosula</i>
<i>Tmesipteris</i> species – fork ferns	Slender tree fern – <i>Cyathea cunninghamii</i>
<i>Todea barbara</i> – king fern	Water ferns, leech ferns – <i>Blechnum</i> species

### GYMNOSPERMS (Conifers)

<i>Athrotaxis cupressoides</i> – pencil pine	Celery-top pine – <i>Phyllocladus aspleniifolius</i>
<i>Athrotaxis selaginoides</i> – King Billy pine	Cheshunt pine – <i>Diselma archeri</i>
<i>Callitris oblonga</i> – Oyster Bay pine	Creeping pine – <i>Microcachrys tetragona</i>
<i>Callitris rhomboidea</i> – South Esk pine	Huon pine – <i>Lagarostrobos franklinii</i>
<i>Lagarostrobos franklinii</i> – Huon pine	King Billy pine – <i>Athrotaxis selaginoides</i>
<i>Microcachrys tetragona</i> – creeping pine	Oyster Bay pine – <i>Callitris oblonga</i>
<i>Phyllocladus aspleniifolius</i> – celery-top pine	Pencil pine – <i>Athrotaxis cupressoides</i>
<i>Diselma archeri</i> – Cheshunt pine	South Esk pine – <i>Callitris rhomboidea</i>

## ANGIOSPERMS

### Eucalypts

<i>Eucalyptus amygdalina</i> – black peppermint	Alpine cider gum, Archer’s gum – <i>Eucalyptus archeri</i>
<i>Eucalyptus archeri</i> – alpine cider gum, Archer’s gum	Alpine yellow gum – <i>Eucalyptus subcrenulata</i>
<i>Eucalyptus barberi</i> – Barbers gum	Barbers gum – <i>Eucalyptus barberi</i>
<i>Eucalyptus brookeriana</i> – Brookers gum	Black gum, swamp gum – <i>Eucalyptus ovata</i>
<i>Eucalyptus coccifera</i> – snow peppermint, snow gum	Black peppermint – <i>Eucalyptus amygdalina</i>
<i>Eucalyptus cordata</i> – heart-leaved silver gum	Blue gum – <i>Eucalyptus globulus</i>
<i>Eucalyptus dalrympleana</i> – mountain white gum	Brookers gum – <i>Eucalyptus brookeriana</i>
<i>Eucalyptus delegatensis</i> – gum-topped stringybark	Cabbage or weeping gum – <i>Eucalyptus pauciflora</i>
<i>Eucalyptus globulus</i> – blue gum	Candlebark – <i>Eucalyptus rubida</i>
<i>Eucalyptus gunnii</i> – cider gum	Cider gum – <i>Eucalyptus gunnii</i>
<i>Eucalyptus johnstonii</i> – yellow gum	Giant ash, swamp gum – <i>Eucalyptus regnans</i>
<i>Eucalyptus morrisbyi</i> – Morrisby’s gum	Gum topped stringybark – <i>Eucalyptus delegatensis</i>
<i>Eucalyptus nitens</i> – shining gum	Heart-leaved silver gum – <i>Eucalyptus cordata</i>
<i>Eucalyptus nitida</i> – Smithton peppermint	Morrisby’s gum – <i>Eucalyptus morrisbyi</i>
<i>Eucalyptus obliqua</i> – stringybark	Mountain white gum – <i>Eucalyptus dalrympleana</i>
<i>Eucalyptus ovata</i> – black gum, swamp gum	Forth River peppermint – <i>Eucalyptus radiata</i>
<i>Eucalyptus pauciflora</i> – cabbage or weeping gum	Risdon peppermint – <i>Eucalyptus risdonii</i>
<i>Eucalyptus perriniana</i> – spinning gum	Shining gum – <i>Eucalyptus nitens</i>
<i>Eucalyptus pulchella</i> – white peppermint	Silver peppermint – <i>Eucalyptus tenuiramis</i>
<i>Eucalyptus radiata</i> – Forth River peppermint	Smithton peppermint – <i>Eucalyptus nitida</i>
<i>Eucalyptus regnans</i> – giant ash, swamp gum	Spinning gum – <i>Eucalyptus perriniana</i>
<i>Eucalyptus risdonii</i> – Risdon peppermint	Stringybark – <i>Eucalyptus obliqua</i>
<i>Eucalyptus rodwayi</i> – swamp peppermint	Swamp peppermint – <i>Eucalyptus rodwayi</i>
<i>Eucalyptus rubida</i> – candlebark	Tasmanian ironbark – <i>Eucalyptus sieberi</i>
<i>Eucalyptus sieberi</i> – Tasmanian ironbark	Snow peppermint, snow gum – <i>Eucalyptus coccifera</i>
<i>Eucalyptus subcrenulata</i> – alpine yellow gum	Urn gum – <i>Eucalyptus urnigera</i>
<i>Eucalyptus tenuiramis</i> – silver peppermint	Varnished gum – <i>Eucalyptus vernicosa</i>
<i>Eucalyptus urnigera</i> – urn gum	White gum, manna gum – <i>Eucalyptus viminalis</i>
<i>Eucalyptus vernicosa</i> – varnished gum	White peppermint – <i>Eucalyptus pulchella</i>
<i>Eucalyptus viminalis</i> – white gum, manna gum	Yellow gum – <i>Eucalyptus johnstonii</i>

### Tea-trees, paperbarks and bottlebrush

<i>Callistemon pallidus</i> – yellow bottlebrush	Dry shrubby paperbark – <i>Melaleuca pustulata</i>
<i>Leptospermum glaucescens</i> – glaucous tea tree	Glaucous tea tree – <i>Leptospermum glaucescens</i>
<i>Leptospermum lanigerum</i> – woolly tea tree	Manuka, tea tree – <i>Leptospermum scoparium</i>
<i>Leptospermum nitidum</i> – shiny tea tree	Paperbarks – <i>Melaleuca</i> species
<i>Leptospermum riparium</i> – river tea tree	River tea tree – <i>Leptospermum riparium</i>
<i>Leptospermum scoparium</i> – manuka, tea tree	Scented paperbark – <i>Melaleuca squarrosa</i>
<i>Leptospermum</i> species – tea trees	Shiny tea tree – <i>Leptospermum nitidum</i>
<i>Melaleuca</i> species – paperbarks	Small leaf paperbark – <i>Melaleuca gibbosa</i>
<i>Melaleuca ericifolia</i> – swamp paperbark	Swamp melaleuca – <i>Melaleuca squamea</i>
<i>Melaleuca gibbosa</i> – small leaf paperbark	Swamp paperbark – <i>Melaleuca ericifolia</i>
<i>Melaleuca pustulata</i> – dry shrubby paperbark	Tea trees – <i>Leptospermum</i> species
<i>Melaleuca squamea</i> – swamp melaleuca	Woolly tea tree – <i>Leptospermum lanigerum</i>
<i>Melaleuca squarrosa</i> – scented paperbark	Yellow bottlebrush – <i>Callistemon pallidus</i>

## Wattles

<i>Acacia axillaris</i> – Midlands mimosa	Black wattle – <i>Acacia mearnsii</i>
<i>Acacia dealbata</i> – silver wattle	Blackwood – <i>Acacia melanoxylon</i>
<i>Acacia mearnsii</i> – black wattle	Midlands mimosa – <i>Acacia axillaris</i>
<i>Acacia melanoxylon</i> – blackwood	Native willow (narrow-leaf wattle) – <i>Acacia mucronata</i>
<i>Acacia mucronata</i> – native willow, narrow-leaf wattle	Prickly Moses, prickly mimosa – <i>Acacia verticillata</i>
<i>Acacia pataczekii</i> – Wally’s wattle	Silver wattle – <i>Acacia dealbata</i>
<i>Acacia riceana</i> – spiny southern wattle	Spiny southern wattle – <i>Acacia riceana</i>
<i>Acacia verniciflua</i> – varnished wattle	Varnished wattle – <i>Acacia verniciflua</i>
<i>Acacia verticillata</i> – prickly Moses, prickly mimosa	Wally’s wattle – <i>Acacia pataczekii</i>

## Other trees and shrubs – mainly rainforest

<i>Acradenia frankliniae</i> – whitey wood	Archeria – <i>Archeria</i> species
<i>Agastachys odorata</i> – white waratah	Climbing heath – <i>Prionotes cerinthoides</i>
<i>Anodopetalum biglandulosum</i> – horizontal	Dwarf leatherwood – <i>Eucryphia milliganii</i>
<i>Anopterus glandulosus</i> – native laurel	Deciduous beech, fagus – <i>Nothofagus gunnii</i>
<i>Archeria</i> species – archeria	Hairy rainforest heath – <i>Archeria eriocarpa</i>
<i>Archeria eriocarpa</i> – hairy rainforest heath	Horizontal – <i>Anodopetalum biglandulosum</i>
<i>Archeria hirtella</i> – smooth rainforest heath	Leatherwood – <i>Eucryphia lucida</i>
<i>Atherosperma moschatum</i> – sassafras	Myrtle – <i>Nothofagus cunninghamii</i>
<i>Cenarrhenes nitida</i> – native plum	Native laurel – <i>Anopterus glandulosus</i>
<i>Eucryphia lucida</i> – leatherwood	Native plum – <i>Cenarrhenes nitida</i>
<i>Eucryphia milliganii</i> – dwarf leatherwood	Pandani – <i>Richea pandanifolia</i>
<i>Nothofagus cunninghamii</i> – myrtle	Sassafras – <i>Atherosperma moschatum</i>
<i>Nothofagus gunnii</i> – deciduous beech, fagus	Smooth rainforest heath – <i>Archeria hirtella</i>
<i>Prionotes cerinthoides</i> – climbing heath	Straggling trochocarpa – <i>Trochocarpa cunninghamii</i>
<i>Richea pandanifolia</i> – pandani	Sweet scented trochocarpa – <i>Trochocarpa gunnii</i>
<i>Trochocarpa</i> species – trochocarpa	Trochocarpa – <i>Trochocarpa</i> species
<i>Trochocarpa cunninghamii</i> – straggling trochocarpa	White waratah – <i>Agastachys odorata</i>
<i>Trochocarpa gunnii</i> – sweet scented trochocarpa	Whitey wood – <i>Acradenia frankliniae</i>

## Other trees, shrubs and climbers – mainly eucalypt forest

<i>Allocasuarina littoralis</i> – bull-oak	Banksia, honeysuckle – <i>Banksia marginata</i>
<i>Allocasuarina</i> species – casuarinas or she-oak	Bauera – <i>Bauera rubioides</i>
<i>Allocasuarina verticillata</i> – she-oak	Bearded heaths – <i>Leucopogon</i> species
<i>Aotus ericoides</i> – golden pea	Bertya – <i>Bertya tasmanica</i>
<i>Asterotrichion discolor</i> – currajong	Blanket bush (blanket leaf) – <i>Bedfordia salicina</i>
<i>Astroloma humifusum</i> – native cranberry	Boronia – <i>Boronia</i> species
<i>Banksia marginata</i> – banksia, honeysuckle	Brown’s tree-daisy – <i>Brachyglottis brunonis</i>
<i>Banksia serrata</i> – saw banksia	Bull-oak – <i>Allocasuarina littoralis</i>
<i>Bauera rubioides</i> – bauera	Bushman’s bootlace – <i>Pimelea drupacea</i>
<i>Bedfordia salicina</i> – blanket bush (blanket leaf)	Casuarinas or she oak – <i>Allocasuarina</i> species
<i>Bertya tasmanica</i> – bertya	Cheeseberry – <i>Cyathodes glauca</i>
<i>Beyeria viscosa</i> – pinkwood	Cheesewood – <i>Pittosporum bicolor</i>
<i>Billardiera longifolia</i> – purple apple berry	Clematis – <i>Clematis aristata</i>
<i>Boronia</i> species – boronia	Common heath – <i>Epacris impressa</i>
<i>Brachyglottis brunonis</i> – Brown’s tree-daisy	Crimson berry – <i>Leptecophylla juniperina</i> (= <i>Cyathodes juniperina</i> )
<i>Bursaria spinosa</i> – prickly box	

- Cassinia aculeata* – dolly bush  
*Cassytha* species – dodder laurels  
*Clematis aristata* – clematis  
*Coprosma nitida* – mountain currant  
*Coprosma quadrifida* – native currant  
*Cyathodes glauca* – cheeseberry  
*Cyathodes juniperina* (= *Leptecophylla juniperina*)  
 – crimson berry  
*Cyathodes parvifolia* (= *Leptecophylla juniperina*  
 subsp. *parvifolia*) – pink mountain berry  
*Cyathodes* species – (pink) mountain berry  
*Dodonaea* species – hop bushes  
*Epacris impressa* – common heath  
*Epacris* species – heaths  
*Exocarpos cupressiformis* – native cherry  
*Gaultheria hispida* – snowberry  
*Goodenia ovata* – parrots food  
*Hakea lissosperma* – mountain needle bush  
*Hakea* species – needlebushes  
*Hibbertia* species – guinea flowers  
*Leptecophylla juniperina* – crimson berry  
*Leptecophylla juniperina* subsp. *parvifolia*  
 – pink mountain berry  
*Leucopogon* species – bearded heaths  
*Lomatia tinctoria* – guitar plant  
*Monotoca glauca* – goldeywood  
*Nematolepis squamea* – lancewood  
*Notelaea ligustrina* – native olive, dorrel  
*Olearia* species – daisy bushes  
*Olearia argophylla* – musk  
*Olearia lirata* – dwarf musk; dusty daisy bush  
*Olearia phlogopappa* – daisy bush  
*Olearia viscosa* – viscid daisy bush  
*Orites diversifolia* – variable orites  
*Ozothamnus* species – tree everlastings  
*Phebalium squameum* (= *Nematolepis squamea*)  
 – lancewood  
*Pimelea drupacea* – bushman's bootlace  
*Pimelea* species – rice flowers  
*Pittosporum bicolor* – cheesewood, tallow-wood  
*Pomaderris apetala* – dogwood, native pear  
*Pultenaea gunnii* – golden pea bush  
*Pultenaea juniperina* – little prickly; prickly beauty  
*Richea dracophylla* – dragon leaf richea  
*Richea scoparia* – scoparia  
*Tasmannia lanceolata* – native pepper  
*Telopea truncata* – waratah  
*Westringia* species – native rosemary  
*Zieria arborescens* – stinkwood
- Currajong – *Asterotrichion discolor*  
 Daisy bushes – *Olearia* species  
 Daisy bush – *Olearia phlogopappa*  
 Dodder laurels – *Cassytha* species  
 Dogwood, native pear – *Pomaderris apetala*  
 Dolly bush – *Cassinia aculeata*  
 Dragon leaf richea – *Richea dracophylla*  
 Dwarf musk; dusty daisy bush – *Olearia lirata*  
 Golden pea – *Aotus ericoides*  
 Golden pea bush – *Pultenaea gunnii*  
 Goldeywood – *Monotoca glauca*  
 Guinea flowers – *Hibbertia* species  
 Guitar plant – *Lomatia tinctoria*  
 Heaths – *Epacris* species  
 Hop bushes – *Dodonaea* species  
 Lancewood – *Nematolepis squamea* (= *Phebalium squameum*)  
 Little prickly; prickly beauty – *Pultenaea juniperina*  
 Mountain berry – *Cyathodes* (= *Leptecophylla*) species  
 Mountain currant – *Coprosma nitida*  
 Mountain needle bush – *Hakea lissosperma*  
 Musk – *Olearia argophylla*  
 Native cherry – *Exocarpos cupressiformis*  
 Native cranberry – *Astroloma humifusum*  
 Native currant – *Coprosma quadrifida*  
 Native olive, dorrel – *Notelaea ligustrina*  
 Native pepper – *Tasmannia lanceolata*  
 Native rosemary – *Westringia* species  
 Needlebushes – *Hakea* species  
 Nodding monotoca – *Monotoca linifolia*  
 Parrots food – *Goodenia ovata*  
 Pink mountain berry – *Leptecophylla juniperina*  
 subsp. *parvifolia* (= *Cyathodes parvifolia*)  
 Pinkwood – *Beyeria viscosa*  
 Prickly box – *Bursaria spinosa*  
 Purple apple berry – *Billardiera longifolia*  
 Rice flowers – *Pimelea* species  
 Richea – *Richea* species  
 Saw banksia – *Banksia serrata*  
 Scoparia – *Richea scoparia*  
 She-oak – *Allocasuarina verticillata*  
 Snowberry – *Gaultheria hispida*  
 Stinkwood – *Zieria arborescens*  
 Tallow-wood – *Pittosporum bicolor*  
 Tree everlastings – *Ozothamnus* species  
 Variable orites – *Orites diversifolia*  
 Viscid daisy bush – *Olearia viscosa*  
 Waratah – *Telopea truncata*

## Herbs

<i>Acaena novae-zelandiae</i> – buzzie	Alpine raspberry – <i>Rubus gunnianus</i>
<i>Brunonia australis</i> – blue pincushion	Blue pincushion – <i>Brunonia australis</i>
<i>Geranium potentilloides</i> – mountain geranium	Buttercups – <i>Ranunculus</i> species
<i>Hydrocotyle sibthorpioides</i> – entire leaf pennywort	Buzzie – <i>Acaena novae-zelandiae</i>
<i>Hypochoeris radicata</i> – cats ear	Cats ear – <i>Hypochoeris radicata</i>
<i>Ranunculus</i> species – buttercups	Entire leaf pennywort – <i>Hydrocotyle sibthorpioides</i>
<i>Rubus gunnianus</i> – alpine raspberry	Fireweeds, groundsels – <i>Senecio</i> species
<i>Senecio</i> species – fireweeds, groundsels	Fireweed – <i>Senecio linearifolius</i>
<i>Senecio linearifolius</i> – fireweed	Mountain geranium – <i>Geranium potentilloides</i>
<i>Urtica incisa</i> – stinging nettle	Native violets – <i>Viola</i> species
<i>Viola</i> species – native violets	Stinging nettle – <i>Urtica incisa</i>

## Grasses, graminoids and other monocotyledonous plants

<i>Austrodanthonia</i> species – wallaby grasses	Blue berry, Tasman flax lily – <i>Dianella tasmanica</i>
<i>Caladenia</i> species – spider orchids	Buttongrass – <i>Gymnoschoenus sphaerocephalus</i>
<i>Carex appressa</i> – cutting sedge	Cutting grass – <i>Gahnia</i> species
<i>Dianella</i> species – flax lilies	Cutting grass – <i>Gahnia grandis</i>
<i>Dianella revoluta</i> – revolute or blue flax lily	Cutting sedge – <i>Carex appressa</i>
<i>Dianella tasmanica</i> – blue berry, Tasman flax lily	Fairy lanterns – <i>Thismia rodwayi</i>
<i>Diplarrena moraea</i> – white flag iris	Flax lilies – <i>Dianella</i> species
<i>Ehrharta stipoides</i> – weeping grass	Grass tree – <i>Xanthorrhoea</i> species
<i>Empodisma minus</i> – spreading rope rush	Greenhood orchids – <i>Pterostylis</i> species
<i>Gahnia</i> species – cutting grass	Kangaroo grass – <i>Themeda triandra</i>
<i>Gahnia grandis</i> – cutting grass	Red fruit saw sedge – <i>Gahnia sieberiana</i>
<i>Gahnia sieberiana</i> – red fruit saw sedge	Revolute or blue flax lily – <i>Dianella revoluta</i>
<i>Gymnoschoenus sphaerocephalus</i> – buttongrass	Rushes – <i>Juncus</i> species
<i>Juncus</i> species – rushes	Sagg, mat rush – <i>Lomandra longifolia</i>
<i>Lepidosperma</i> species – sword sedges	Spider orchids – <i>Caladenia</i> species
<i>Lepidosperma elatius</i> – tall sword sedge	Spreading rope rush – <i>Empodisma minus</i>
<i>Lomandra longifolia</i> – sagg, mat rush	Sun orchids – <i>Thelymitra</i> species
<i>Poa</i> species – tussock grasses	Sword sedges – <i>Lepidosperma</i> species
<i>Poa labillardierei</i> – white grass, tussock grass	Tall sword sedge – <i>Lepidosperma elatius</i>
<i>Pterostylis</i> species – greenhood orchids	Tussock grasses – <i>Poa</i> species
<i>Rytidosperma</i> species – wallaby grasses	Wallaby grasses – <i>Austrodanthonia</i> species, <i>Rytidosperma</i> species
<i>Themeda triandra</i> – kangaroo grass	Weeping grass – <i>Ehrharta stipoides</i>
<i>Thelymitra</i> species – sun orchids	White flag iris – <i>Diplarrena moraea</i>
<i>Thismia rodwayi</i> – fairy lanterns	White grass, tussock grass – <i>Poa labillardierei</i>
<i>Xanthorrhoea</i> species – grass tree	

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