Hints on Growing Native Plants

This Booklet

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for the

WILDFLOWER SOCIETY OF WESTERN AUSTRALIA (Inc.)

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FOREWORD

'Growing' was foremost in the mind of those who established the Society for Growing Australian Plants (SGAP) on 12th March 1957 in Melbourne and the Wildflower Society of Western Australia followed in this state in 1958. In fact, the first Australian Plants Journal to list our Society stated 'membership is open to any person who wants to grow Western Australian native plants'. Early journals were well stocked with information on growing and early members of the Wildflower Society of Western Australia were very active in propagating their own plants as there were no specialist native plants nurseries at that time. Within five years there was so much expertise among the members that it was decided to put together some hints on growing native plants. Thus in 1964 the first 'Hints on Growing native Plants' book was available for sale.

Due to heavy demand and ongoing developments in propagation, as well as great increases in known plant species, there have been a number of revisions and reprints of this little booklet. Research has come up with new aids to seed germination such as smoked water and trials on heat treatment and stratification. There has also been great success with cuttings, hormone treatment, tissue culture and transplanting which has allowed plants previously hard to germination to be propagated and grown in gardens. Advances and success in hybridisation and grafting have also created a range of very attractive cultivars of Australian native plants.

There are now specialist Australian plant nurseries and garden centres as well as many more growers with expertise in the propagation of Australian, and particularly Western Australian, native plants. Community groups, including several branches of the Wildflower Society of Western Australia, propagate plants not grown by commercial nurseries, so there is a wide choice of both common and rare plants, many previously unknown or difficult to grow, available for purchase.

As a result of demand and increase in interest, many new books identifying and showing Western Australian plants have come onto the market and are available in bookstores and from the Wildflower Society of Western Australia. Society members have produced a number of these books, many of which are regarded as definite works on particular genera or areas of interest.

Over time there have been a large number of botanical name changes. An appendix of name change that apply to plants listed in older editions of this booklet has been included in this edition.

It is hoped that this new edition meets the needs of those who are taking up the challenge of growing our wonderful wildflowers in both their private gardens and as part of the revegetation of degraded bushland.

INTRODUCTION

This booklet is produced as a guide to those who would like to establish Western Australian wildflowers (referred to as WA native plants) in gardens or introduce them into already established gardens. The beauty of Australia's famous wildflowers has long been recognised and recently there have been more concentrated efforts to bring them into cultivation. Due to the pioneering work since around 1957 and continued research it is possible to pass on reliable information to those would like to have Western Australian native plants in their garden.

Such plants make a fitting setting for today's contemporary homes and by planning to use them when designing our landscapes, we can gain a garden with superior design which is uniquely Australian. These gardens with their natural beauty are more suited to management with the water restrictions brought on by the drying climatic change, supported with up-to-date garden reticulation. Dry gardens are possible because Western Australian plants have evolved the ability to survive and recover during dry periods, with careful and selective planting during annual rain periods following by maintenance watering during the first one or two dry seasons.

Many plants are spring flowering and spectacular floral displays can be expected during this season. Species such as 'Wedding bush' *Ricinocarpos tuberculatus*, 'Ashby's Banksia' *Banksia ashbyi*, 'Native Hibiscus' *Alyogyne huegelii*, 'WA Christmas Tree' *Nuytsia floribunda*, Kangaroo Paws *Anigozanthos spp* and hybrids, 'Morrison' *Verticordia nitens*, 'Sturt's Desert Pea' *Swainsonia formosa* and everlasting daisies are as spectacular in flower as any plants you would find elsewhere in the world.

There are plants that flower in each season and those which flower throughout the year such as *Banksia ashbyi, Grevillea* 'Ellendale Pool', *Beaufortia aestiva* and *Adenanthos* species. With careful selection your garden need never be without blossoms. Added to this, there are many interesting plant forms with eye-catching varieties of leaf shapes, texture and colours all the year round. Many local plant enthusiasts choose to plant their gardens with wildflowers local to their nearby reserves and bush areas to introduce and support their local biodiversity of flora and fauna, especially birds and native bees.

A wide choice of trees, shrubs and groundcover plants is now available from specialising garden centres, Wildflower Society branches and other community groups who hold regular sale days of local and WA plants. However, there are still many lovely species yet to be brought into cultivation from the wild and it is hoped that with the help of the information in this booklet, propagation of these from seed and cuttings would be attempted. An absorbing and worthwhile recreational pastime is assured for those who are willing to try.

Anyone who is interested in growing Australian plants would gain benefits from joining their local branch of the Wildflower Society of Western Australia. It produces a quarterly newsletter with local information. Members also receive the Australian Plants journal. This quarterly publication is by Australia Native Plants, Australia or ANPSA, the WA Society's national body. For advice, general information, meeting dates and venues visit <u>https://www.wildflowersocietywa.org.au/</u> or contact: The Secretary, Wildflower Society of Western Australia, PO Box 519, Floreat 6014, Tel: 08 9383 7979; email enquiry@wildflowersocietywa.org.au

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PLANNING A NATIVE GARDEN

When building a new home, too many people get around to the garden as an afterthought. This is unfortunate as the whole of your block should be an integral part of your home. Much time is spent in determining the needs within the house, but as a rule, very little thought is given to the outdoor area which can act as an extension and become an important part of the family living space. This is especially relevant in our sunny land which is so ideally suited to outdoor activities. Some thought beforehand will ensure that your garden really meets the needs of your particular lifestyle. Good design and forward thinking are the keys to an integrated and extended living space with multiple uses, adaptable to family needs, many of which change with time.

Think of such aspects as minimal care, outdoor entertaining, relaxation, shade, a children's play area, a barbecue, a swimming pool (now or in the future), a sunny breakfast nook, evenings outdoors sheltered from the wind, privacy from neighbours, screening of ugly objects, unobtrusive utility areas for clothes drying, bins, wood and tool storage; and most of all, think of an attractive setting for your house. A native garden can be designed to meet all these needs. It is also in keeping with contemporary architecture, the natural landscape and our way of life.

When you have a broad idea of how you want to set out your block, your next concern is to stop that enthusiastic bulldozer driver from flattening your trees and bush and denuding your property in carrying out site works. While you are negotiating with architects and builders, get to know the plants on your block and in nearby bushland. If you can, observe them during a whole year, noting habit, foliage, general appearance and flowering time. Try to identify them. Here you will see the species that are adapted to your area. These plants will prove to be reliable in your garden. When the time comes to build, make the builder fully aware of your garden plans and get his co-operation in preserving the vegetation you wish to keep. Mark clearly all the trees that are to be retained so that his workmen will not make mistakes. Securely rope off or fence any area you think will need extra protection during building operations. Remember that it takes about seven years to re-establish an area with plants following denudation. By retaining trees and bushland you have a valuable foundation for your native garden development. It is easy to remove unwanted plants at a later date. In the meantime, they hold the soil and provide shelter from the wind and heat for the plants that are to be introduced among them as well as for those that are already established.

If you are not fortunate enough to have bush to begin with, it is still possible admittedly with comparatively greater expenditure of time, effort and money to achieve a native garden. This initial expense would be equivalent to that of establishing a traditional exotic garden but once established, a native garden will require little maintenance, whereas exotic plants will claim much more of your time and money in watering, weeding, raking and feeding. Also, the former helps your house to fit into the natural landscape whereas the latter can create distraction rather than harmony.

Even before the building is finished and while you are not yet living in your new home, you can start to develop the detailed plans for your garden. The first step is to measure and plot your block to scale. Graph paper is useful for this purpose. You may be able to obtain the plan of your house already positioned on the block and you can transfer this to your graph paper. Then mark in the positions of trees and shrubs already growing on the block and also the assets and eyesores of the adjoining properties. Next, start to allocate areas of usage, checking off from the list given above and allowing for any other activities in which your family likes to indulge. Once you have planned where each of these functions is best located, draw it onto the plan. Views from the house should, at all times, be kept in mind when working out these details. Now plot in the areas to be used for planting trees and shrubs trying to mentally picture the effect you wish to achieve and how the area will look when your plants have grown to maturity. It is vital to find out the expected mature size, not only the height but also the breadth, of all plants you select. It is easy to cause over-crowding by under-estimating the amount of space that will be needed for full growth. Then, in many cases, the beauty of individual plants and the contribution they make to the total landscape will be diminished.

What is known as 'backbone planting' should come first. This consists of the longer-lived and larger trees and shrubs. When planting trees, thought must be given to placing them strategically in relation

to the house and boundaries. This means keeping in mind areas you want to develop as shrubberies, rockeries, open lawn space, barbecue and pool sites. It is best to plant first the trees that are expected to grow the tallest. These will probably take the longest to grow to maturity, so the sooner they are planted the sooner they will fulfil long-term functions such as providing privacy, covering eyesores and giving shade. In this climate where so much time is spent out of doors, early planning for shade on patios and sitting areas should be given prime consideration. As large trees grow, they will give shelter for medium and smaller species planted beneath them. Eucalypts are particularly suitable for this as they provide dappled shade.

When planting the taller trees and shrubs, always keep in mind which direction is north so that you know where they will throw their shade both in winter and summer when fully grown. Site shade-loving plants to the south of them and keep sun-lovers to the north. Unless you do this, you will find that the sun-loving species will become leggy, flower sparsely and generally fail to thrive as soon as the trees attain their full height and block the light.

In deciding on positions on trees, consideration must be given to the direction of the prevailing winds and to wind currents round the house which may adversely affect the habit of growth of some species. For example, if a slender tree such as 'Silver Princess' *Eucalyptus caesia subsp magna* or *E. sepulcralis* is grown in the path of the prevailing wind, it will be blown to overshade and crowd out the plants in its lee. Careful siting is needed if such trees are to grow to their full beauty. Trees with sturdier trunks should be used in situations exposed to strong winds.

The next step is to incorporate shrubs and smaller plants into the design. In placing individual plants for optimal growth, it is essential to know their requirements and preferences in regard to light, shelter, soil nutrition, moisture and warmth. This kind of awareness is especially necessary when planning areas with a southerly shaded aspect, a westerly windy exposure or a northerly hot dry orientation.

In your planting, strive for overall harmony. Use contrasts in colours, forms, textures and shapes of plants and also in the leaves and flowers to give diversity and interest to particular areas; but repeat themes of plants so that you achieve an integrated whole. It is a good idea to plant species in groups rather than singly. Some species such as 'Silver Princess' *Eucalyptus caesia subsp magna* and *E sepulcralis* lend themselves particularly to this treatment. An integrated effect can also be achieved by a wise choice of ground cover plants. While you are waiting for ground covers and small shrubs to grow, speedy annuals such as 'Everlasting Daisies' will fill the spaces with colour.

While talking of harmony, a word of warning is in order. You may have some exotic favourites which you would like to have in your garden e.g., *Jacaranda* or *Hibiscus*. These plants have soft, fleshy leaves not adapted to withstand hot, dry conditions and they tend not to blend into the local bushland effect you are trying to create. Furthermore, many are deciduous, and their large fallen leaves can look out of place on the natural bushland carpet. From the standpoint of maintenance, they will involve you in extra watering, raking and sweeping. Even Australian trees native to rain forest areas e.g., 'Queensland Box' *Lophostemon conferta*, 'Cape Lilac', *Melia azedarach*, 'Illawarra Flame Tree' *Brachychiton acerifolia* and 'Umbrella Tree' *Schefflera actinophylla* do not fit well into dry area landscapes. On the other hand, some exotics from climatic conditions similar to our own can be blended successfully with our native plants.

Where heavy usage is not envisaged for an open-space area, a number of native species can be used to provide ground cover instead of the conventional grass lawn. These will add texture, variety and flowers to your garden and can be allowed to flow into the surrounding shrubberies thus avoiding hard lines that will spoil the total harmony. (See Page 28 for a list of ground cover plants).

Climbers can play a useful part in any garden scheme, screening problem areas, greening walls or fences and adding seasonal colour and perfume as well. Many are quick growing and hardy. (See Page 29 for a list of native climbers).

Don't neglect lighting in your garden. Interesting effects can be achieved after dark by individual highlighting of trees and shrubs. Lights that can be moved should be used to illuminate what is best at any particular time. This may be a bark-shedding trunk, a shrub in bloom, sculptured branches, bursting buds or a thousand other things. Just look and light them up for night-time beauty.

In today's hectic world, technology has led to an accelerated lifestyle and an environment which is often ugly, noisy and stressful. This results in a 'green hunger' in many of us which is evidenced by a rush into the country at weekends. A bush garden can create your retreat for relaxation right in your own backyard.

SOILS

The home gardener who is growing native plants needs to be aware that some do not readily adapt to cultivation away from their natural habitats.

The water retaining quality of the soil (usually related to its clay, silt and humus content) as well as the nutrient content, can play an important part in determining suitability of a location for the growth of specific plants. Climate, particularly rainfall, is more important than soil for plant growth in areas where water is not available for irrigation. In cultivating plants where climate is favourable or irrigation water is available, faults of soil with regard to individual species can often be cured.

West Australian soils in general are ancient and nutrient deficient, particularly low in phosphorus. Native plants have adapted to this and some, for example, a number of the family *Proteaceae*, react unfavourably to the application of fertilisers with a high phosphate content e.g., *Banksia, Dryandra, Grevillea* and *Hakea*. Nitrogen is generally also deficient and many of our plants have adapted to obtain this element from the atmosphere by means of association with nitrogen-fixing organisms, thus enriching the soil for other plants as well as obtaining nitrogen for themselves.

Salinity can be a problem with soils in some areas. Certain species of plants are salt adapted. These can be used if you have a saline area to plant. You should be aware that much of the available underground water in Western Australia has a high salt content and, in many cases, it is not suitable for irrigation.

Erosion is a major hazard with regard to soil. It can be caused by both wind and water. The first effect is usually the removal of the productive humus containing topsoil. You can guard against erosion in areas being cultivated by stabilising the disturbed soil as soon as possible with some form of mulch.

The acidity or alkalinity of the soil is important to some plants as is well known to those gardeners who grow *Camelias* and *Azaleas*. A soil with a low pH (1-6) is acid, one with a pH of 7 is neutral and one with a high pH (8-10) is alkaline. Some native plants do well under alkaline conditions, but the greater number prefer slightly acid soils with a pH of about 6. Commercially packaged preparations are available to change soils from alkaline to acid or vice versa if this is necessary to grow a particular plant. The treatment will need to be repeated at regular intervals if the pH change is to be maintained.

Many West Australian soils are described loosely as 'sand' and they may all seem alike to the untrained observer. However, the term 'sandy' can cover a wide range of soils and is used to include, for example, the deep, coarse, porous but often water-shedding, grey sand common over the Swan coastal plain; the red-yellow limestone sand of Spearwood, the fine peaty swamp-sand such is found at Osborne Park and Albany; the gravelling sand of the better agricultural 'sandplain; and the fine, but not deep sand, of the newly developing northern coastal sandplains.

In addition to the 'sandy' soils, there are the 'heavy' clay-rich soils such as are found in certain areas of the foothills and the leached lateritic soils occurring higher up for example on the Darling Scarp.

The depth of topsoil, the type of sub-soil, the soil texture, water-holding capacity and soil fertility vary greatly in the different soil types.

It is found that some plants refuse to adapt to cultivation away from their natural soil conditions e.g., *Eucalyptus wandoo* which is native to heavy clay soil and does not grow well on sand. Others also give disappointing results. For example, *Eucalyptus forrestiana* and E. *torquata*, which grow naturally on heavy soils, do not grow to their full beauty in sand. *Banksia coccinea, Beaufortia sparsa, Regelia velutina* and *Grevillea wilsonii* grow into apparently healthy plants in the sand of the Perth

metropolitan area, but usually do not flower there. Again, others are short-lived in our sandy soil, e.g., *Lechenaultia spp.* and *Hibiscus spp.* They seem to need more water when grown on sand. Nematodes will also attack plants that are brought from heavier soils to our sand. 'Sturt's Desert Pea' often fails after the first year in cultivation and it is thought that the presence of nematodes may be partly responsible for this. Hence, planting on coastal sand should be confined chiefly to plants that are natural to this area or to those that are known to adapt. Other plants should be tried experimentally.

Many plants from granite soils will adapt satisfactory to sand if given extra water in the early stage e.g., and *Kunzea baxteri*. However, much research still needs to be carried out with our native plants before we can make firm recommendations regarding the conditions that are necessary for success with all of them. It is hoped that growers will keep records as they try out species that have proved difficult to date so that we may gradually add to our knowledge. (Page 23 for plants to try as you gain experience).

OBTAINING YOUR PLANTS

Quite a wide range of native plants are now available from Garden Centres and Nurseries. The Wildflower Society's Northern Suburbs Branch operates a nursery and you can find information on it here: www.ns.wsowa.org.au Nevertheless, you may wish to propagate some of your own plants.

Some plants grow easily from seed. Other species are hard to propagate from seed but will grow readily from cuttings. It is possible to grow some species as easily from seed as from cuttings. Various other methods should also be tried with difficult species, e.g., tissue culture, grafting etc.

PROPAGATION FROM SEED

General requirements for seed germination are the same for native species as for exotics. These are primarily a firm seed bed, moisture, correct temperature, light and air. It is now recognised that the best germination and the healthiest plants with the greatest chance of survival will result when measures are taken to provide optimal hygiene through all growing stages until the plant is ready for planting out in the garden. Just as you take special care to provide hygienic conditions for your baby from birth until he/she is ready to crawl on the floor, so you should protect your young plants. Healthy seedlings have a greater change of growing into healthy adult plants. At the same time, it must be remembered that if you want to treat your plants 'hard' in the garden, you should not treat them 'soft' in the nursery. Gradual easing of protective conditions, i.e. 'hardening off' will result in a plant that is able to withstand normal garden conditions when planted out.

LIST OF SPECIES EASILY PROPAGATED FROM SEED:

(Included here are the following categories)

- Those that germinate readily from seed. Most of the family Myrtaceae: e.g., Melaleuca, Eucalyptus, Kunzea, Leptospermum etc.
- Members of the 'Pea' family, e.g., Acacia, Hovea, Hardenbergia, Kennedia, Templetonia, Chorizema, Swainsonia, such as 'Sturt's Desert Pea', Swainsonia formosa.
- Members of the Proteaceae family, e.g., Hakea, 'Woody Pear' Xylomelum and Banksia.
- Annuals such as 'Everlasting Daisies' Xerochrysum, Waitzia, Rhodanthe, etc and other daisies such as 'Swan River Daisy' Brachyscome iberidifolia, 'Blue Lace Flower' also known as 'Rottnest Island Daisy' Trachymene coerulea, Olearia, Podolepis, Senecio and other Brachyscome species.
- Any that do not grow readily from cuttings e.g., some species of Hakea and Grevillea. Acacia (except the prostrate forms), Banksia, Dryandra, Eucalyptus, 'WA Christmas Tree' Nuytsia floribunda and Ricinocarpos.
- Lily-like herbs such as 'Kangaroo Paws' Anigozanthos and Macropidia, 'Fringed Lilies' Thysanotus, 'False Blind Grass' Agrostocrinum, 'Morning Iris; Orthrosanthus, 'Native Iris' Patersonia, Conostylis, 'Red Bugle' Blancoa canescens, Sowerbaea laxiflora, Chamaescilla, Johnsonia, Dianella and Stypandra.

THE COLLECTION OF SEED

Seed of a wide variety of species is available through some branches of the Wildflower Society of Western Australia.

For enquiries, a seed list, and seed write for example to:

The Seed Sales Officer

Eastern Hills Branch Wildflower Society of Western Australia

eastern.hills.branch@wildflowersocietywa.org.au If you want to collect your own seed, you need to be familiar with the law. All species of flora are protected. Rare and threatened species may not be collected. Seed of other species may be collected from private property with the consent of the owner. The Department of Biodiversity, Conservation & Attractions (DBCA) issues permits to collect seed (*for scientific purposes only*) from Crown Land. Special permits are needed to collect from Nature Reserves and National Parks.

RECOGNITION OF FRUIT AND EXTRACTION OF SEED

In order to collect good viable seed, you need to get to know how each species reproduces. Seeds are produced in fruits and these vary tremendously from genus to genus as to size, form and time needed to reach maturity. First you need to be able to recognise the fruit and know when it is ripe and ready to pick so that the seeds will be mature. Then you need to know how to extract the seeds from the fruit.

Botanically, a fruit is 'a seed-bearing structure developed from the fertilised ovary'. Its purpose is to nourish and protect the seeds during their development to maturity. Dispersal then takes place by a wide and ingenious variety of techniques which only the resources of nature could have 'dreamed up'. It is important to understand these mechanisms if one is to catch fruit at the right time for harvesting seed i.e. when the seeds are mature but before they have dispersed by natural means. Some fruit fall from the plant with the seed still enclosed. Others scatter their seed soon after maturity. Yet others remain on the plant for a long period and retain their seed intact until it is released after a succession of hot summers, by a bushfire or by damage which causes a branch to break off.

The fruit of many of the most common native species are either drupes, berries, capsules, follicles or pods (legumes). Other species are harder to categorise without becoming unduly technical, so they will be dealt with individually.

Drupes

These are fleshy fruits with a hard stone inside like a peach. Among them are 'Native Peach' or 'Quandong' *Santalum acuminatum*, 'Sandalwood' *Santalum spicatum*, 'Snotty Gobbles' (or 'Geebung' in the Eastern States) *Persoonia.* These can be picked when ripe or gathered from the ground after they have fallen. The fleshy part can either by removed or allowed to dry before storing.

Berries

These are succulent, fleshy fruits having a number of seeds surrounded by a fleshy tissue and a firm outer skin like a tomato. To extract the seeds, gently pulp the fruit in water to separate them. Then wash the seed and put out in the sun. Native plants in this category are *Solanum, Sollya, Rhagodia, Enchylaena* and *Dianella*.

Commented [WO1]: Does this still operate? Needs checking

Capsules

These are dry, often woody fruits which split open to release their seeds. Some capsules when ripe, open by pores at the top. From these, the seeds fall out in the wind like pepper from a shaker. Examples are *Eucalyptus, Leptospermum, Melaleuca, Kunzea, Beaufortia, Eremaea, Callistemon, Calothamnus, Regelia, Agonis, Taxandria, Hypocalymma* and *Baeckea* group. Other capsules split open at the top e.g., Hibiscus, Alyogyne, Guichenotia and Thomasia.

Most woody capsules retain their seed for quite long periods and you can gather those furthest back on the branch (to ensure maturity) and place them in an open bottle or paper bag in the sun to shed. You should note that there will be packing material along with the seeds. There is no need to separate out the seed from the packing material before sowing. Unless you are sure which is which, you may sow the packing material instead of the seed and wonder why there is no germination! Some capsules shed their seed so soon after being picked that it may fall into the collection beg before you get home so be careful not to throw it away. When choosing capsules to pick, make sure that they have not already opened and shed their seed. Do not ever use plastic bags when putting fruit in the sun to dry as sweating will occur and this may spoil the seed. If capsules do not open, they have been picked immature. Examples of species whose seeds can be extracted from the capsules in this way are *Eucalyptus*, *Melaleuca*, *Beaufortia*, *Eremaea*, *Callistemon*, *Calothamnus*, *Regelia* and *Baeckea*.

In some species, the capsules shed their seed very soon after the flower parts die, so you need to watch continuously or tie a paper bag over the fruit to catch the seeds as they shed. Examples of these are *Kunzea, Leptospermum*, 'Pink Myrtle' *Hypocalymma robustum*, 'Peppermint' *Agonis flexuosa, Eucalyptus annulata, Hibiscus, Thomasia, Alyogyne*, 'Murchison Bell, *Guichenotia macrantha*.

Follicles

These are fruit, also often woody, which open mainly along one side to release winged seeds (usually two). WA genera which have follicles are *Banksia* (the follicles are the 'bumps' on the cone), *Hakea*, *Grevillea* and *Xylomelum*.

In *Hakea* and *Xylomelum*, fruits do not shed seed as long as they remain on the shrub. However, if mature, they will readily split open if picked and left in a bottle in the sun. Failure to split open after picking and drying is an indication that the fruit has not reached maturity.

Grevillea fruits split open and shed their seeds as soon as they become mature. The seed will be lost unless the fruits are bagged while still green. If picked green, the fruits will not open. These seeds will be immature and will not germinate.

Mature *Dryandra* fruits can be felt in the dry flower head. They need to be separated from it (generally a very prickly task) and subjected to heat to open and release the hard, black winged, triangular seeds. Sometimes the fruits will shed their seed if left in an open bottle in the sun or they can be heated in a frying pan. It is easier to extract seed from freshly fruits.

Banksia seed is not always easy to extract. When collecting cones make sure you can feel the woody fruit among the spent flower material. Old cones are best to ensure maturity. They normally remain on the bush with seed intact until there is a bushfire. However, some Banksia e.g., Banksia grandis, Banksia menziesii and Banksia prionotes will shed on the tree after the heat of summer. Discard any that show sign of insect attack. Even when they appear to be insect-free, you may be disappointed to find the seed already eaten when you extract it. So always collect enough cones to allow for such losses.

The best extraction method is to place the cones in the fire and let them catch alight all over. Do not leave them in too long. Seed either falls out or can be gently prized out with a knife or pulled with tweezers. There will be two winged seeds in each fruit, one on either side of a woody divider. In some *Banksia* only one seed seems to reach maturity. Some species do not readily shed their seed upon burning e.g., *Banksia candolleana, Banksia coccinea, Banksia laricina, Banksia brownii* and *Banksia sphaerocarpa*. With these species only the large end of the divider may come out, leaving the seeds deep in the fruit. If this happens, the cones should be soaked in water for 24 hours and

then replaced in the fire. This may need to be done several times before the seed is released. If it is inconvenient to use an open fire to burn cones, they can be placed in an oven at 250°F (120°C) for half an hour.

Pods

These are easily recognised because of their likeness to domestic peas and beans. Some of the most common native plants which bear pods are 'Native Wisteria' *Hardenbergia comptoniana*, *Kennedia, Chorizema*, 'Cockies Tongue' *Templetonia retusa*, 'Sturt's Desert Pea' *Swainsonia formosa, Hovea, Acacia* and *Senna*.

Seeds in pods are mostly dispersed by explosion while the fruit is still on the plant. It is thus particularly important to bag the pods so that the seed will not scatter before you can get to them.

The following notes may help you to recognise the fruit and extract the seed of some other native plants not mentioned above.

Isopogon

The seed of *Isopogon* is in a tiny nut within the rounded head which remains when the flowers are spent. The heads should not be picked straight after flowering but should be left on the plant to mature for about a year. To extract the seeds, dry the heads well in a paper or cloth bag in the sun and break them up by hand. They will consist of a mass of 'fluff' amongst which you will find the small nuts each having a brush of long silky hairs which looks like the tail of a comet. There are not usually very many per flower-head.

• Petrophile

Unlike *Isopogon*, the scales of the flower-head in *Petrophile* are persistent. When mature, they part as they dry to reveal a small nut in the axil of each scale. These seeds are 'dart' shaped with a flat fringe of hairs to either side. They vary in ease of extraction from species to species. Some come out easily e.g., *P. biloba* and *P. linearis* which shed into a paper bag when dry. Others are difficult and have to be plucked from inside the scales with a pair of tweezers e.g., *P. ericifolia*.

Kangaroo Paws

The seed of *Anigozanthos manglesii* (WA's Floral Emblem), and 'Cats Paw' *Anigozanthos humilis* is in their ripened ovaries. You can tell when to harvest them because the flowers lose their colour and become dry and brittle. This takes place about early December. Once this happens, they must be gathered promptly as they will open and shed their seed. Other 'Kangaroo Paws' behave differently. *Anigozanthos bicolor* ripens about the same time but the fruit must be crushed to release the seed. The fruit of *Anigozanthos pulcherrimus* and *Anigozanthos rufus* also needs crushing to release the seeds. A rolling pin is useful for this job. These flowers ripen later about February or March. 'Black Paw' *Macropidia fulginosa* seed is much bigger than that of other 'paws'. Each mature fruit splits to release three seeds from the central triangular divider. Each seed has one rounded black hairy side which was formerly part of the ovary wall. All 'paws' are best collected in paper bags tied over the mature flowering head while they are still on the plant.

• 'WA Christmas Tree'

Nuytsia floribunda has hop-like fruit and contains a single sticky seed. It is held on the tree in a prong and falls off as soon as it is dry and papery. This happens at the time of autumn winds, about March. Fruit can be gathered from under the tree but watch carefully as it soon becomes widely scattered by wind. No extraction is necessary. Plant whole, only just covered, directly in situ.

'Daisies'

Annuals such as 'Everlasting Daisies' *Rhodanthe*, *Bracteantha* and *Waitzia* species among others and daisies such as *Brachyscome* and *Podolepis* have fluffy airborne seeds which must be gathered just before they blow away. If the flower is picked before the centre is loosened for wind dispersal, the seed will not be mature. Note that the seed falls to the bottom of the bag and the fluff remains at the top so be careful that you do not plant the fluff and throw away the seeds!

• 'Morrisons' or 'Feather Flowers'

Verticordia, Thryptomene, Scholtzia, Pileanthus and 'Geraldton Wax' *Chamelaucium uncinatum.* In these plants the faded flowers become the fruits. You do not need to extract the seed. Just sow the fruits whole. Gather them when they are just loose enough to fall naturally from the plant. Bagging is recommended as otherwise it is easy to lose them to the wind.

• Calytrix and Pimelea

The seed is blow aways as it ripens and loosens from the multiple flower cluster. It is best to bag unless you can watch the plant and successively pluck as it loosens.

'Smoke Bush'

Conospermum bear a conical seed which looks like a spinning top with short hairs fringing the upper rim. This should be distinguished from the grey furry material of the dead flower. The seed remains on the plant for a while after the flowers fall but can easily be lost by natural dispersal so bagging is again recommended.

Orchids

It is not proposed to deal in this book with the collection of orchid seed or its propagation because specialist knowledge is necessary. For information consult Australian Plants journals or members of the Orchid Society of WA.

It is outside the scope of this booklet to cover seed collection and extraction for all native species. It is hoped that in dealing with the most common types, this book has alerted you to look carefully for the fruit, await maturity, yet obtain the seed before it is lost by natural dispersal. If seed collection becomes a part of your native plant growing some of the wonders of nature will be revealed to you.

INSECT ATTACK

Seed of native plants is subject to insect attack. If there are signs that the fruits have been penetrated by insects they should be discarded as it is unlikely that any fertile seed will remain. There are often clear indications of insect attack on *Patersonia*, 'Kangaroo Paw', *Hovea* and *Hypocalymma*. It is more difficult to detect on *Banksia* and *Dryandra* as the insects generally seem to attack from the base of the fruit. Failure to germinate when seeds are planted straight into the ground can also be due to insect attack or removal, e.g., by ants.

SEED STORAGE

When you have collected your seed, store it in an airtight container in a cool, dry place. Hot, dry conditions during storage are not as damaging as warm, moist conditions. It is advisable to shake a little commercial insecticide into the storage container. A suitable preparation is paradichlor-benzene. It comes in the form of crystals which evaporate to fill the container. Your chemist will stock it. A fungicide may also be a beneficial precaution if completely dry conditions are not provided. Always label seed, add the date and place of collection. If you do not know the name, keep a pressed specimen to identify it and make notes of plant size, flower colour etc.

VIABILITY

There will be no germination unless the seed is viable. To test for viability, cut a seed with the thumbnail or scissors. A living seed will contain white, softish, often oil material which is the food store.

Different seeds require different lengths of time to reach maturity. If you gather Grevillea fruits green, the seeds are not sufficiently mature and will not germinate. 'Everlasting Daisy' seed will not be viable if it is gathered before the centre of the flower is loose. This seed does not remain viable beyond three years. The same applies to most other annuals.

Some gum nuts need to remain on the tree for more than one season before the seeds are mature and the valves are ready to open to release them. If the capsule is picked too soon, the valves remain closed after drying out. This is a sign that the seed is not mature. On the other hand, one group of northern *Eucalyptus*, the 'Paper-fruited Bloodwoods' shed their seed soon after flowering. Newly faded *Banksia* flowers do not contain viable seed. The fruits may take a year or more to develop. In general, until they are woody (rather than furry), they are not mature. Watch out for the ones that open and shed on the tree e.g., *Banksia grandis*, *Banksia prionotes* and *Banksia menziesii*.

The seeds of many native plants stay viable for a great number of years. Some wattles, 'Kangaroo Paws' and *Eucalyptus* have been known to germinate after 30 to 100 years. Banksia seed left on the cone remains viable for a long time, but once extracted it will lose viability sooner. On the other hand, fresh seed is essential for germination of certain species, e.g., *Nuytsia floribunda, Diplolaena, Boronia* and *Crowea*. Seed of these should be sown in the same season. Good germination can be expected in about four weeks.

It should be noted that in some species, viability appears to be low. This applies to some of the species which produce a huge number of flowers. Examples are 'Smoke Bush' *Conospermum, Lachnostachys*, 'Lambs Tails *Newcastelia* and certain members of the family *Myrtaceae* such as *Verticordia, Calytrix, Chamelaucium, Micromyrtus, Thryptomene, Baeckea* and *Scholtzia.* The massive floral displays serve to attract pollinating insects, but every flower is not necessarily pollinated.

It seems also sometimes the ovum does not fully develop. Hence, though many spent flowers are gathered, only a few may contain viable seed. The same mechanism operates in the case of *Banksia* where there are hundreds of flowers in every cone but only a few fruiting valves are produced. Of course, in this case, it is easy to locate the viable seed. In the home garden, where the natural pollinators may not be present, hand pollinations of plants such as 'Black Paws' *Macropidia fuliginosa* will aid in producing fertile seed.

AIDS TO GERMINATION

Some species with hard coated seed must be treated before germination can take place. In 'Pea' family species this can be done by soaking the seed in hot water to break the coat. As soon as seeds swell, they are ready for planting. Some seed will need a second treatment. Seed that has not responded at this stage is possibly immature. Alternative methods of treatment are:

- Rubbing the seed between two pieces of coarse sandpaper
- Nicking carefully with a sharp knife or razor blade at a point as far as possible away from the growing end

Peeling the coat from the seed has proved successful with some difficult *Grevillea* e.g., *G leucopteris*. Experimentation will show which method is the best suited to a particular seed. As soon as the coat is split the seed must be planted or it will be prone to rot.

Swamp plants need rising temperatures for germination. In their natural habitat the young seedlings would perish by drowning if germination took place with lowering temperatures at the beginning of the wet season. In the case of such plants e.g., 'Brown Boronia' *Boronia megastigma*, stratification can help to break dormancy. This involves storing the seed in a sand/peat mixture in a refrigerator (not in the freezing compartment) for about three weeks before setting out.

Most seeds will germinate within four weeks. Everlastings take only one week. Certain species, however, appear difficult to germinate but have been found to come up a year after sowing. Examples are *Verticordia, Scholtzia, Actinotus, Macropidia, Conospermum, Pileanthus.* Recent experience has shown that these will often come up with the first rains if they are sown in the early summer and left to bake in the sun until the autumn. 'Black Paw' *Macropidia fuliginosa* especially is known to respond to this method.

A quick light burn, over the top, after covering seed with coarse sand and then leaf litter seems to aid the germination of most species especially *Verticordia* and *Anigozanthos*. This may not be necessary if smoked water is used.

THE SOWING OF SEED

Growing plants from seed is often the easiest and most reliable method of propagation. Used smoked water (now available at King's Park Information Desk and some nurseries) improves results especially with seeds of species previously considered difficult to germinate e.g., *Verticordia, Conospermum, Calytrix* and *Pimelea*. Both stratification and heating of seeds aids germination.

CONTAINERS FOR SOWING

For the grower who requires only a few plants of a species, plastic pots 12-20 cm (5-8 inch) or any firm sided container such as an ice cream carton with drainage holes punched in the bottom, will be adequate. The use of pots less than 12 cm (5 inches) is not recommended, particularly in hot weather, because they dry out too rapidly. Small individual pots may be used for single seed planting but in this case every care will need to be taken to guard against drying out. Plastic seed trays three inches deep are now available and are useful because they do not need so much potting material per area to be planted. You can, of course, make your own wooden seed trays. Several species can be sown in the one tray as long as they are carefully labelled. Containers should be well drained but there is no need to crock the base with broken material, stones etc as this interferes with the capillary movement in the soil and may upset the hygienic conditions which it is so important to maintain. Pots, tubes or trays should be arranged on benches raised off the ground. This helps prevent the spread of water borne diseases such as phytophthora and allows aerial pruning of roots at the base of the container.

THE SEED BED MIXTURE

The soil should be as friable as possible. For example, a mixture of clean river sand, bush sand and peat in the proportion of 3/2/1 has been used with success. A mixture of 3 parts of perlite to 1 part of peat has also given satisfactory results. The mixture should be well sifted and firmed in the seed bed. A lot of the 'Hills' species which come from heavy soil do well in a mixture of half loam and half river sand. Potting soil should, ideally, be sterilised to prevent infections.

HOW TO SOW

The seed should be sown, not too freely, on top of the seed bed and covered to its own depth with a sprinkling of the same mixture. It is easier to sow very fine seed evenly if it is mixed with sand first. A loose cover of fine blue metal will prevent heavy rain from disturbing the seed. Similarly in hot weather, a vegetable mulch of very fine material such as crushed sheoak needles will help the seed bed to remain cool and moist. Firm the seed bed by watering. Protect the pots from snails or bait for these predators.

DIRECT SEED SOWING

'Everlasting Daisies' and 'Rottnest Daisies' should be sown straight into the ground. Rake the ground, preferably when it is wet after rain and when more rain is expected. Scatter the seed and tread it in lightly. Add a sprinkling of compost and bait the area for snails before and after sowing seed. Copper based snail spray has proven very safe and effective.

'Sturt's Desert Pea' seedlings will not survive root disturbance. Therefore, the seed should be sown direct into the ground. It seems to give best results when grown as a pot plant or it can be tried in a hanging basket.

Large seeds, such as *Banksia, Hakea, Xylomelum, Grevillea* and 'WA Christmas Tree' *Nuytsia floribunda* also grow successfully when the seed is sown in situ.

If there are large areas to be planted, scattering seed is a good method. Select the seed of species which you want to grow and which are the appropriate height for the situation. Fine seed should be mixed with sand and hard coated seed such as pea seed should be soaked before scattering. This method will produce a more natural garden. Plants can be thinned out, if necessary, after germination.

BEST SOWING TIMES (SEE APPENDIX 2)

Sowing times must be selected according to the optimal conditions of temperature and moisture for each species. Growing on after germination is also a factor to be considered. Most sowing is done in either autumn or spring.

Generally speaking, species from the South are best sown in autumn, whereas those from North of the Murchison and from the Eremaean low rainfall areas are best sown in spring. This latter group germinates better with increasing warmth and there is less trouble from damping off. If they are germinated in autumn, they are, in general, not woody enough to thrive during the cold winter months. Germinated in spring, they will quickly match the growth of any that may have survived from autumn sowing.

Most quick growing species, such as those of *Acacia* and *Eucalyptus* if sown in late winter, early spring, will be well enough established to be planted out in the following autumn after the opening rains, though plants will need to be maintained over the summer months.

OPTIMAL TEMPERATURE CONDITIONS

Soil temperature is likely to be right at the above times of the year providing the germination trays or pots are placed in a warm corner. If sowings have to be made during cooler periods of the year, a sheet of glass placed over the seed bed will encourage more warmth. However, this will need to be removed to take advantage of rain and when hand watering is necessary. Once the seeds germinate, the glass should be removed.

Sometimes in spring, the temperature may become too hot for germination to take place. Likewise in autumn, the temperature may drop too low. In either case, germination can usually still take place when the temperature again becomes favourable.

Temperature fluctuations between day and night also seems to be a factor contributing to successful germination. Hence a seed bed in the open will often give better results than one under glasshouse conditions with even temperature.

OPTIMAL MOISTURE CONDITIONS

The best form of moisture is rain. If it is at all possible, sowing should be done when a wet period is predicted. Rainwater is of particular importance if the local scheme water is known to be alkaline. Such water is one factor which can give rise to poor germination. It is most essential to ensure that the pots do not dry out during germination. If there is any chance of this, it is preferable to stand them in water. Most species of *Eucalyptus, Melaleuca* and *Kunzea* seem to respond particularly well to this treatment which is known as 'bog method' of germination. A piece of glass is place over the top of the pot to maintain humidity. As soon as germination takes place, this should be raised. Some growers like to stand all their pots in shallow water until the soil is moist, thus only watering from the bottom. However, this method can enable the spread of infection from one pot to another unless each pot has its own saucer.

SEED SOWING GUIDE (SEE APPENDIX 2)

The times suggested are for South Western Australia and will need adapting for other areas. In Victoria and South Australia, spring sowings are best for all WA plants. The winters in these areas are too severe for many of our plants, even those from the Stirling Range where there is sometimes light snow but no frost.

FERTILISER

It is not necessary either in the seed bed mixture or on the seedlings as they emerge. Sufficient food is provided in the seed for initial growth.

AVOIDANCE OF DAMPING OFF

'Damping off' is a condition caused by water mould which infects young seedlings, blocking the passage of water in their stems and causing them to collapse and bend over, usually just above ground level. The fungus is transmitted in wet soil. To prevent this happening, the potting mixture should be sterilised prior to sowing of the seeds. This can be done by treating the soil with boiling water or a fungicide solution.

PRICKING OUT

As soon as the seedlings are big enough to handle, about a month after germination, they need to be pricked out into individual pots. Small containers are best at this stage. A good pricking out mixture would be two parts river stand, one part bush sand and one part peat. The perlite mixture recommended for the seedbed can be used. Again, no fertiliser should be added. The mixture should be thoroughly moist as should the seedling tray. Gently free the root system from the mixture and plant with the aid of a dibble with as little root damage as possible. Plant with the seedling leaves just above the ground, especially if the plant is at all leggy. Water thoroughly and place in the shade with protection from wind for several days until the plant recovers and then move it out to a more open but still sheltered position. After the plant has become established, dust the soil in the pot with a little Blood and Bone or add a controlled release fertiliser such as Osmocote for Native plants.

GROWING ON

Once the seedling plants have grown large enough, they can be potted up into bigger containers or put into their final positions in the garden. It is best to keep them in pots until the first rains of autumn. If you put them into the garden before summer commences, you run the risk of losses unless you shade for a while and water carefully throughout the hot months.

Since propagation from seed is usually undertaken during the cooler and wetter months, growing on will occupy the hotter and drier months. Some protection will be necessary. Young plants should be stood out in the open from April to October when no shade is needed but just some protection from wind. From November to March, it will be necessary to provide some shading with shade cloth screens to protect the plants from excessive sun and heat exposure. It is nevertheless advantageous to have some full sun each day, preferably morning sun and afternoon shade. At all seasons of the year, some form of windbreak may be necessary accordance to the exposure of the nursery site. Plants should be hardened off before being planted out into the garden.

PROPAGATION FROM CUTTINGS

Most prostrate plants and many others grow readily from cuttings.

ADVANTAGES OF PROPAGATION FROM CUTTINGS

There are certain very real advantages to be gained by propagating from cuttings:

- If you take cuttings from a plant which is vigorous, free flowering, with good flower colour and attractive foliage form, you can be assured of the same qualities in the resulting plant. Thus propagation from cuttings provides the opportunity for the production of plants of proved superiority.
- The plant will flower much earlier than one grown from seed, because you are starting from
 mature vegetative material; whereas the seed-grown plant has to grow through all stages of
 maturity to reach the flowering stage. In some cases, this may be as long as 7-14 years e.g.,
 'WA Christmas Tree' Nuytsia floribunda.
- Some species hybridise easily e.g., Callistemon. Plants raised from their seed can be very
 variable and results may thus be disappointing (as well as, at times, exciting!)
- Good plant selections and hybrids, once established, can only be perpetuated true to form and colour, by this method.

• Where trees of even form are required for avenue planting or for other formal effects, seedproduced specimens may be quite variable but cutting-produced specimens obtained from an adult plant of the desired form will be dependably of similar colour, form and size.

PLANTS BEST GROWN FROM CUTTINGS

Species belonging to the following genera usually strike easily: *Kunzea, Hypocalymma, Beaufortia, Regelia, Baeckea, Callistemon, Calothamnus, Calytrix, Chamelaucium, Darwinia, Leptospermum, Melaleuca, Pileanthus, Scholtzia, Thryptomene, Boronia, Lechenaultia, Hibiscus, Alyogyne, Crowea, Ricinocarpus, Dodonaea, Dampiera, Hemiandra, Myoporum, Pimelea, Thomasia, Verticordia, Eremophila, Chorizema, some Hibbertia and many Grevilleas.*

However, some of our plants have proved difficult to grow from cuttings. Some are members of the Pea family, *Acacia* (except prostrate forms), *Eucalyptus, Verticordias* (especially *Verticordia grandis*) and most of the Proteaceae such as *Banksia, Dryandra, Conospermum* and some *Grevillea*. Plants that have hairy leaves or stems are poor prospects for propagation from cuttings because the hairs collect moisture that encourages the growth of fungi. This can cause damping off. In this category are *Lachnostachys, Newcastelia, Dampiera, Physopsis*, some *Eremophila* and some *Goodenia*.

Home gardeners are encouraged to experiment with these difficult and lesser-known species and gradually more knowledge is accumulated and can be passed onto other growers especially with the need to expand the range of local plants for rehabilitation purposes.

CUTTING MATERIAL

Always take cuttings from the best plants, paying attention to vigour of growth, form of foliage, flowering capacity, flower shape and colour. It is best to establish a stock plant from initial bush cuttings as it has been found that the propagation material taken from a plant cultivated for at least one generation will give better results than material taken from the wild.

Shoots sprouting from root stock after a bush fire make excellent cutting material. *Verticordia grandis,* other *Verticordia spp, Petrophile linearis, Hibbertia spp* and 'Smoke Bush' *Conospermum* have been easily propagated from such material. Shoots coming up on burnt plants can be cut off where the stem joins the root and then treated as cuttings. Some *Eucalyptus* also respond in this way.

Individual leaves of species from the family *Goodeniaceae* including *Dampiera, Goodenia, Velleia, Scaevola* and *Lechenaultia,* most *Stylidium* species from the family *Stylidiaceae,* the sundew genus of *Drosera* and the 'Albany Pitcher Plant' *Cephalotus follicularis,* can be treated as cuttings and will produce new plants.

When collecting material, it is important that it is not at any time allowed to dry out. It should be wrapped firmly in moist newspaper (not too tightly), then stored in a plastic bag in a cool place for transporting. For preference, an insulated container or refrigerator should be used. Plant material will deteriorate if stored too long, so it should be 'set out' as soon as possible. If kept moist, cuttings stored as above will keep in a suitable condition for striking up to two weeks.

TIME FOR TAKING CUTTINGS

Cuttings may be taken from cultivated plants at any time of the year. However, the best time for taking cuttings from the majority of plants in the bush is from February to April. At this time the best material is likely to be available, i.e., half-hard wood which has had two to four months to mature. Also, the temperature is right for striking. The winter months, from May on, often prove too cold without specially heated cuttings trays. Some species strike easiest from soft tip cuttings and others from semi-hard wood. Experience will tell you which species fall into each of these categories. Cuttings from species of *Pimelea*, 'Waxes' *Chamelaucium* and *Boronia* should be set in late summer as they present the best material at this time.

HOW TO STRIKE CUTTINGS

Pots

Any well drained container can be used for striking cuttings. Five-inch pots are ideal.

Potting Medium

This can be three or four parts of clean sharp sand (such as river sand) to one part of peat. Perlite may be used in place of sand. This medium will be reasonably sterile.

Sterilisation:

Always maintain optimal standards of hygiene. This is applied to secateurs, pots, utensils and potting medium. The medium may be further sterilised by heating or by drenching with a fungicide such as Fongarid or Phosphorus acid solution before the cuttings are set. For optimum results a fungicide spray should be applied very few weeks.

Setting Cuttings

From the available cutting material, snip two-to-three-inch tip pieces. In many cases, best results are obtained when a clean cut is made just below a node. The soft tip should be removed to prevent loss of moisture by transpiration. The lower third of foliage can be stripped if needed to prevent fungal attack. Be careful not to injure the stem. Some foliage can be easily stripped by running the fingers down the stem, but in other cases, the foliage must be removed with a sharp knife or clippers or by pulling the leaves upwards.

If the leaves are large, they should be halved to cut down transpiration. If cutting material has dried out soak in Formula 20 (1 litre water to two drops of Formula 20) or similar, for up to 12 hours. To hasten root development, dip the cuttings in rooting gel or cutting powder before setting. Dip the lower part of the cutting into the hormone to encourage more roots to form up the stem. Good results can be achieved without the use of rooting hormones on some species. A hole can be made in the potting medium with a clean sharp stick or dibbler and the cutting inserted to a depth of half its length. Cuttings are placed so they are not overcrowded as this can lead to fungal attack. The pot and cuttings are watered thoroughly to settle the soil. (This can be done with a fungicide solution if desired). The cuttings are then covered with a 2litre clear plastic cool drink bottle with the bottom one third removed and without the plastic lid. This serves as a mini glasshouse over the cuttings and has proven more convenient to use than a plastic bag cover.

The pot should be kept in a warm, humid place out of the wind and direct sunlight. If too much condensation accumulates, the bottle cover can be removed to shake out excess moisture and then replaced. Inspect the pot regularly to make sure that the soil remains moist. Remove any cuttings that die.

Some growers have reported good results by standing the prepared cuttings overnight in the following solution, mixed according to the strengths given on each package: *Seasol* (a seaweed plant nutrient solution), *Captan* (a fungicide), *Formula 20* (a root growth hormone).

Rooting of Cuttings

This will take anything from four weeks to six months. When a cutting feels firm in the soil to gentle pulling, it has formed roots. For confirmation, the pot may be knocked out for inspection.

Potting Up

As soon as roots have formed, carefully knock the contents out of the pot and gently tap the soil so that it falls away from the roots to enable the small plants to be separated.

Gently plant each of the rooted cuttings into a separate small pot as described for the pricking out of plants grown from seed (being careful not to twist or damage the young roots). Shelter will be needed for a while until the plant recovers. Here again, a plastic cool drink bottle cover is useful. As soon as the plants are again growing, they should be gradually accustomed to near-garden conditions by exposure to more sunshine each week. Watering and protection from wind must be maintained during this period, or the small plants can dry out and die.

Commented [WO2]: In metric measurement?

PROPAGATION FROM ROOT SUCKERS

Some species reproduce naturally by means of root suckers. This can be taken advantage of as a means of propagation. The root suckers should be dug with care and separated from the parent plant. Those which have already rooted are the easiest to establish. Place them in a potting mixture as for cuttings or transplant immediately to the desired location. This procedure should preferably be carried out after the first rains have broken, but while the soil is still warm.

Examples of plants which can be propagated easily by this method are species of *Lechenaultia*, *Lobelia*, *Dampiera*, *Hemiandra*, *Scaevola*, *Hibbertia* (some species), *Myoporum*, *Pittosporum*, *Santalum*, *Conostylis* and *Tricoryne*.

PROPAGATION BY LAYERING

Certain plants such as *Thryptomene baeckeacea* prostrate form and *Hibbertia glossulariifolia* will root from second year growth where their stems touch the ground. This can be encouraged by hooking stems down and pegging them into the top layer of the soil. Rooting of these can be promoted by making a cut in the underside of the stem to about one quarter of its thickness before staking down.

PROPAGATION BY DIVISION OF CLUMPS

This method of propagation can be successfully carried out with many species of native plants, in particular those which grown in tufts such as 'Kangaroo Paws' *Anigozanthos, Thysanotus, Conostylis, Patersonia, Orthrosanthus, Agrostocrinum, Johnsonia, Sowerbaea laxiflora, Spinifex hirsutus* and *Spinifex longifolius.*

From observation, it has been noted that the majority of these plants put out a new set of roots from the base of the clump, just as an *Iris* does, at the beginning of the rainy season, about April to June. This is the time to divide the clumps and transplant the divisions to their new locations. Divisions may succeed if transplanted directly into a new location so do not make these divisions too small, i.e., don't divide the plants into individual rhizomes. The best results are achieved by treating the new tufty divisions as cuttings and they should be set into tubes or pots of potting mix in sheltered nursery conditions for planting out in the next autumn or when established. The clumps will readily divide into sections, with the new white root shoots seen at the base of the leafy tufts. All old roots and dead leaves are removed and cut surfaces are dipped in hormone gel or powder. Experimentation will show what is the optimal size of divisions for different species. It is most important when planting them out to pay attention to the original soil level of the clump and to plant them to the same depth in the potting soil.

Some species grow as clumps of rosettes e.g., *Dampiera wellsiana*, *Dampiera eriocephala* and some species of 'Trigger Plants' *Stylidium*. These can be propagated by division of the clumps into individual rosettes. Some of these species also layer readily sending down roots from nodes along the stems.

Most prostrate or ground cover plants can be divided e.g., *Myoporum*, *Lobelia* and *Frankenia*. It would be interesting to try the prostrate species of *Dryandra*, *Banksia* and *Petrophile* by this method.

TRANSPLANTING FROM THE WILD OR PLANT SALVAGE

Species that are difficult to propagate by any of the methods described above can sometimes be brought into cultivation by transplanting from the wild. In this category are the 'Black Kangaroo Paw' *Macropidia fuliginosa*, 'Star of Bethlehem' *Calectasia cyanea*, 'Smoke Bush' *Conospermum*, 'Trigger Plants' *Stylidium*, 'Sundews' *Drosera* and many species of *Verticordia* and *Orchids*. It must be remembered that this can only be done from private property with the consent of the owner. When it is known that areas, especially urban areas, are to be developed, or mining sites, it is often possible to obtain such consent. Care should be taken not to transplant from areas infected with 'Jarrah

Dieback' *Phytophthora cinnamomi*. Other plants that are known to take years to reach maturity can be introduced into the home garden by transplanting. Three of these are 'Balgas', *Xanthorrhoea spp* the 'Zamia Palm' *Macrozamia riedlei* and 'Christmas Tree', *Nuytsia floribunda*.

Except in the case of 'Balgas', Zamia Palms' and 'Black Kangaroo Paws', always choose small plants to transplant. These are likely to have less extensive root systems and can thus be re-sited with a minimum of disturbance. In general, young plants will make quick growth in the garden and they will have a longer life than plants that are moved at a more advanced stage.

Try to plant after or just before rain. If the ground is not wet, thoroughly soak around the plant before and after transplanting.

A good method is to cut around the plant on four sides to a spade's depth and to a suitable size to fit into a 12 cm plastic planter bag. Ife and ease the root ball gently into the bag. Firm down and water to get rid of air pockets. This method makes transplanting easy and give the plant a chance to recover before planting it out into its permanent place in the garden. A plastic bag placed over the top of the plant for a few days after transplanting is useful as shelter and will conserve moisture. It can be loosened for a while before the plant is exposed to normal conditions.

TRANSPLANTING 'BALGAS' OR GRASS TREES

These can be moved with careful planning even if they are large. Select plants from areas that have to be cleared. Plants growing in shallow soil over limestone have proved easiest to move and reestablish. Transplanting should be done after good soaking rains have thoroughly wet the soil, in about June. Preferably cut through the roots, at least a metre out from the trunk, three weeks before you wish to undertake transplanting. As soon as the 'Balga' has been lifted, plunge it into a tube of water. If it is too large for this treatment, thoroughly wet the root base and transfer without delay to the new site. With small plants, cut back all the leaves except the centre tuft, and with large plants, greatly reduce the green foliage as this helps to cut down transpiration. Transplanted 'Balgas' should be kept well-watered at least over the first two summers. This also applied to 'Balgas' purchased from Nurseries.

HYGIENE FOR REMOVAL OF PLANTS FROM THE WILD

A preventative fungicide spray or drench is recommended for plants removed from the wild especially if any suspicion of dieback (*Phytophthora*) in the area of removal. Plants are best prepared in a quarantine area of nursery or garden and after setting, plants and soil should be drenched with Fongarid or phosphorus acid fungicide before placing into the main nursery area. With direct transplanting, plants and immediate soil can be drenched with the fungicide.

PURCHASE OF NATIVE PLANTS FROM GARDEN CENTRES AND NURSERIES

Most people purchase their plants from garden centres and nurseries. It is therefore important to know what to look for when selecting individual specimens.

Most Australian native species do better if planted out into their permanent positions while still quite young. This is because so many develop long tap roots at an early stage. Choose a small vigorous plant, not a tall leggy one. The sooner it is in its permanent position in the garden, the sooner it will adapt to the conditions reigning there. Many of our plants are fast growing, and a small, healthy, vigorous specimen will soon outstrip a taller, leggy one that has root problems.

Most Garden Centres order in fresh young health plants weekly chosen especially as they are in bud or coming into flower. Buy your plants early in the season of flowering. If necessary, place an order for the required plants to guarantee early supply. Roots of some plants may need a gentle teasing at the base of the root ball after removal from the pot and before planting.

Individual plants should be chosen to the purpose you have in mind. For instance, if you want a specimen tree, choose a well-shaped upright plant with a strong main growing shoot. On the other hand, if you are planting a wind break, choose bushy plants with a lot of low branches.

If you really need to buy an established or maybe overgrown plant in a pot, it is best to remove any roots curling around the base of the root ball by clipping these roots away or by completely removing the bottom 2-3 cm on the root ball with a pruning saw. The side of the root ball can also be scored with a sharp knife to promote new root growth. Unless you do this, the tap root will fail to straighten out and penetrate deeply into the soil. This will cause the death of the plant within a few years having made it subject to 'wind throw'. The twisted roots are also suspected to cause strangling of nutrient flow within the plants thus making the plant more susceptible to fungal intervention causing the gradual death of individual branches over a period of time. Any plants that have had root intervention must be watered well before and after planting.

To guarantee a supply of healthy native plants from your local garden centre, discuss your requirements with them, encourage them to stock local plants and remember to only buy good quality plants to create a health garden.

NATIVE PLANTS IN THE HOME GARDEN

PLANTING OUT

Every plant has individual potential and specific requirements for growth. Carefully select the position in your garden for each plant paying special attention to its expected mature size. Thoroughly wet the soil in the pot. One method is to immerse it in a bucket of water and leave it to soak while you are preparing the hole. Dig a hole the same size as the pot. If you wish to use fertiliser and/or water crystals, mix them into the soil at the bottom of the hole and water well. When the water has soaked in, put your hand over the top of the pot, turn it upside down and tap it lightly against a firm surface so that roots and soil come out intact. Transfer the plant with a minimum of disturbance to the hole. Fill it in, firm the soil and water well to remove any pockets of air. In sand, the plant should be slightly below ground level rather than up on a hill so that the water runs towards it rather than away. When planting any swamp plants such as *Boronia*, the addition of peat to the soil will improve the water-holding capacity. This is especially beneficial in leached coastal sands. The peat should be dug into the bottom of the hole where the new roots will develop.

Some shade in the beginning will help the plant to become established. This can be achieved by using leafy twigs such as any prunings from other plants in your garden and staking them in around the plant. This procedure will also protect the plant from wind that could snap it in two.

MULCHING

If desired, the application of a surface cover of composted mulch preferably of a coarse texture, wood chips or the natural prunings from your native garden will help the survival of the plant in its early stages. The mulch will prevent excessive evaporation or moisture from the soil while keeping the surface cool and shaded. Soil wetters will assist with water penetration if a surface resistance is present.

FERTILISERS

Our native plants have adapted over the years to growing in low nutrient soils. They have evolved a capacity for extracting nutrients from low fertility soils. Supplementary feeding is often not necessary. If fertiliser is added to hasten growth, care must be taken regarding the choice. Where the soil is heavy or has a greater humus content, fertilisers will be retained. In sand they leach out more readily.

Blood and bone or a balanced controlled release fertiliser such as Osmocote for native plants can be applied occasionally over the root zone especially with the early rains and prior to flowering. When using blood and bone, add a little potash as this stimulates root growth and flowering. The benefit of controlled release fertilisers is that the plant is being continuously fed a little at a time and the fertiliser need only be applied at intervals of 9 months. Fertilisers applied to plants of the *Proteaceae* e.g.,

Banksia, Grevillea and Hakea etc should be very low in or have no phosphate content, relying on existing natural phosphates in the soil or mulch. The general application of untried chemical fertilisers with untried native species is not recommended. Do not over supply the plants forcing them to develop rapid and excessive soft, leggy growth which will not be able to withstand hard conditions when they occur. Also, this type of forced growth produces 'wood' rather than flowers. In the leached sands around Perth, it is advantageous to occasionally supply trace elements. Once every three or four years is usually sufficient. Trace element preparations are sold by garden centres and nurseries.

If the leaves of a plant turn yellow and they remain green along the ribs, it is said to be chlorotic and can be caused by a virus or by mineral deficiencies. In native plants it is commonly prevalent in soils that are too alkaline. The application of *Iron Chelates*, following the directions on the packet will usually remedy this condition. Several applications at monthly intervals may be necessary to correct soil conditions.

WATERING

Most native plants once they are established will survive throughout the summer without watering. They become dormant or aestivate during the dry season heat and come into growth again just prior to the first rains. However, it is important that young plants in their first summer after planting out are watered until they become established. A good way to ensure this, is to sink a fruit juice tin open at both ends or the top half of a plastic cool drink bottle with the lid removed, upside down into the soil acting as a funnel, beside the plant, and fill it with water twice a week.

Government water restrictions allow a more than adequate supply of water for WA plants in gardens.

Some of the plants native to areas that receive summer rains, e.g., those of the south coast, seem to always need summer watering. Examples are *Boronia, Beaufortia sparsa* and *Beaufortia decussata, Hovea elliptica* and the southern species of *Banksia, Banksia coccinea, B caleyi, B pilostylis, B brownii, B nutans, B dryandroides, B baueri, B laevigata, B littoralis, B verticillata, B occidentalis* and *B formosa.* In planting the garden, it can be helpful to group these plants together for ease of watering. Sandplain plants can manage without summer watering and may also be grouped together. If in doubt about watering requirements, a thorough watering once a week is likely to benefit most native plants. Avoid watering that does not penetrate below the surface soil, because plants will come to rely on obtaining their moisture from surface roots only and a hot spell that causes drying out at the surface can lead to the death of the plant. For the same reason, plants that in addition to their larger and deeper root system form a network of roots just below the surface of the soil, (*Banksia* is a good example), should be well mulched and disturbed as little as possible. Heavy stones placed at the base can serve to anchor them as well as keeping the soil shaded and moist. A soil wetter can be applied to soil surface to allow the water to penetrate the soil.

Late flowering 'Kangaroo Paw' species need watering at flowering times. Without this they form buds that may fail to open if the weather is dry. This applies to *Anigozanthos pulcherrimus, A rufus* and *A flavidus* hybrids.

Trickle or subsurface irrigation is a most satisfactory way of watering to establish native plants. It ensures a continuous supply of moisture for the plant and in comparison, with overhead methods, conserves water. The type of dripper used will determine the amount of water the plant gets.

PESTS AND DISEASES

Native plants are no more susceptible to pests than are other garden plants. There should be little need to resort to spraying. In fact, it is desirable to avoid using sprays as much as possible as they can be harmful to the birds that will be attracted to the garden by honey-producing species such as *Melaleuca, Callistemon, Banksia* and 'Kangaroo Paws'. If encouraged into the garden, the birds will take over control of many pests. If a particular pest is causing serious concern, it is best to consult a local wildflower nursery or the Agricultural Department to get up-to-date information on control.

Black Ink Disease attacks *Anigozanthos manglesii* and to a lesser extent the other 'Paws'. Overfeeding 'Kangaroo Paws' will result in lush growth and increase the susceptibility to this disease. Weakening of the plants by snails also seems to make them more prone to attack. As yet, there is no known cure for this disease, but spraying with a copper-based spray (plus a wetting agent such as detergent) may be effective as a preventative measure. The spraying needs to be done before the damage becomes apparent.

There is need for continuous checks on slug and snail populations as these pests can attack 'Kangaroo Paws', 'Everlasting Daisies', 'Sturt's Desert Pea' and most seedlings. The surrounding area can be sprayed with a safe liquid snail repellent of buffered copper complex.

PRUNING

Pruning, if undertaken, should be done regularly and not too drastically. The aims of pruning are as follows:

To shape or balance the plant helping to retain its natural form

Shaping is best accomplished by tip pruning in the early stages rather than by radical treatment at the mature stage. This can be started when the plant is still a seedling. Some native plants under cultivation develop a habit of growth, which in certain circumstances may be attractive, but which in other cases calls for treatment. Pruning should, however, never be used to try to make a plant take on a size or shape that is unnatural to it, e.g., to turn a tree into a shrub or vice versa.

To induce flowering

Pruning produces a denser display of flowers in most cases. This is especially so in species which produce their flowers on the ends of branches e.g., terminal flowering species of *Melaleuca*, *Callistemon* and *Chamelaucium*.

To rejuvenate the plant

Many native plants become 'spent' with age in the home garden because they do not get the rejuvenation that comes in the bush through the action of a bushfire. Try to do in stages what the bushfire does so severely. The plants should never be denuded of foliage. Regular pruning will result in new growth and thickening of foliage. In this way the plant will be kept attractive.

To prune well, the flowering habit of the plant has to be understood. Some plants flower on terminal (first year) wood e.g., *Callistemon, Pimelea ferruginea, Kunzea baxteri, Melaleuca fulgens spp steedmanii* and some on second- or third-year wood, e.g., *Melaleuca elliptica, M lateritia* and *M coccinea*.

Any plant that flowers on the first-year wood will benefit from judicious pruning after flowering as this will improve next year's floral display. Prune these species on the outside of the plant. Growth normally continues on from the newly formed capsules after flowering (observe 'Bottlebrushes' and some *Banksia* species). If pruning is neglected, the plant can become straggly. Prune behind the seed capsules as soon as the flowers have faded or pick the flowers for the vase. Some plants will even flower twice a year if treated in this way.

If a plant flowers on the old wood, prune by thinning out some of the oldest wood and letting the young wood remain i.e., selectively prune on the inside of the plant.

Plants with hard woody branches suffer little or no die-back when pruned, but the softer wooded or pithy centred species e.g., *Crotalaria cunninghamii* and *Acacia* species tend to die back quite extensively. Prune these just after flowering and not too severely. Pruning in mid-winter or mid-summer can lead to severe die-back.

In some plants, the seed vessels are numerous and heavy and can cause the plant to become misshapen e.g., 'Illyarrie' *Eucalyptus erythrocorys* and 'Silver Princess' *E. caesia subsp magna*. Leaving the flowers to develop into fruit saps the plant of strength which, in the young plant, could go into next year's growth and flowering. In these cases, the heavy seed vessels should be removed.

Staking

Staking should be kept to a minimum in a native garden and should be as inconspicuous as possible because it will detract from the natural look. Trees do not need to be exactly upright to be attractive. If they are allowed to grow as they please, they will often take unusual individual shapes that add

charm to the landscaping. If it is essential to stake a plant to save it from wind damage, it is best to tie it loosely between two or three stakes rather than tie it firmly to one. In this way it will be encouraged to grow 'torsion wood' and a root structure capable of supporting it to stand alone. A firmly tied plant will take longer to become independent of its support. Tying strings can damage the trunk when they become too tight as the plant grows. Material used for tying should be of sufficient elasticity to avoid damage. Old stockings are excellent. The ties need to be inspected regularly, at least six-monthly intervals, to ensure that chafing or ringbarking does not occur and re-adjusted to support the tree in the desired condition.

SPECIAL REQUIREMENTS FOR PARTICULAR GENERA AND SPECIES OF PLANTS

Banksia and Dryandra

Care is needed in the use of fertiliser with these plants – use it sparingly. Trace elements in the potting mixture can be helpful. If there is yellowing of the leaves, treat with *Iron Chelate*. Only use fertilisers with a very low phosphate content. No phosphate is preferred, as plants will make use of existing natural phosphate already present in soil and mulch.

Beaufortia sparsa

This needs adequate summer watering as it grows naturally in winter wet with a high summer water table. Trickle irrigation should give good results. It proves difficult in sand.

Boronias

These need shelter from strong winds. A cool root run is also essential and filtered sunlight and adequate water are desired. Boronia megastigma will not tolerate alkaline soil. If possible, prepare the soil by adding peat before planting out this species. Again, *Iron Chelate* can be used to treat yellowing. Flowers of sulphur or aluminium sulphate can be used to make the soil acid.

Callistemon

Prune these soon after flowering in order to prevent straggly growth.

Chorizema cordatum and Chorizema ilicifolium

The leaves of these plants are prone to insect attack. Garlic Spray or a pesticide dust applied to them is generally effective. Snail spray will prevent tiny snails skeletonising the backs of the leaves.

Correa

Semi-shade conditions seem to suit a number of these.

Eucalyptus forrestiana, E erythronema var marginata, E torquata, E dolichorhyncha

These species grow best in loamy or clay soils. If grown in sand they will need extra watering in their early life.

'Geraldton Wax' Chamelaucium uncinatum

All the cultivars from this species benefit from pruning after flowering. This helps to keep a compact shape and avoids the shrubs becoming over-woody and straggly.

Hakea multilineata and Hakea francisiana

A warm, sunny position gives best results. Young plants do not do well in shade.

'Kangaroo Paws'

Protect these plants from snails with copper-based snail spray, especially with the flower steps are appearing. *Anigozanthos pulcherrimus, A rufus* and *A flavidus* need adequate water at flowering time. *A flavidus* and selected hybrids, flower better in an open position. *A manglesii* may need treatment with a fungicide such as Mancozeb to help control of Black Ink Disease. Healthy young seedlings, which will flower in spring, are available from garden centres in early autumn. This species is best treated as an annual or bi-annual if subject to the continual disease attack.

Lechenaultia

A good gravel mulch will encourage root suckers and induce these plants to spread. Plants are often not long lived in the garden and may need to be replaced regularly by striking cuttings or root suckers struck each autumn. More water is needed in sand than in heavier soils. A 30 cm deep layer of builders' sand under the plants helps to retain moisture.

Melaleuca (and some of the other members of the family Myrtaceae)

These suffer from a pest which wraps a web around the leaves and branches. A powerful hose jet will clear this away. They also suffer from apical stem borers. Most species of *Melaleuca* flower better in a sunny position. Pruning after flowering helps to maintain vigour and promotes denser flowering the following season.

Plants from the Sandplains

For maximum flowering, plant these species in a sunny position. They will not need much summer watering if they are planted together in a special bed. Use natural leaf droppings for mulch to avoid fungal attack.

Plants from South Western Australia

In general, these benefit from summer watering.

'Sturt's Desert Pea'

Good drainage is essential. It needs adequate water despite apparent lack of moisture in the wild. Growing *in-situ* in a sunny raised bed is best. Pot on or plant out with minimum root disturbance. Healthy seedlings are available at garden centres in spring. Treatment against snails and eelworm is often needed.

'WA Christmas Tree'

This is a root parasite but there is still doubt about what it obtains from its host plants. It has been found in association with a wide range of plants. In cultivation Couch grass, *Allocasuarina, Anigozanthos flavidus* and *Lobelia quadrangularis* have been used as host plants by successful growers, but it will possibly grow on any host. It needs summer watering until it becomes established. From known records it takes about 5 to 15 years from seed to flowering. Do not be concerned by irregularity in growth. A lignotuber develops and from this, suckers appear and can die back from year to year until it throws up a permanent trunk. It then generally flowers the same or following year. A sunny position is best.

FLOWERING TIMES

The greatest numbers of native plants flower in spring though there are many which flower in a different season. When planning your garden for the best year-round floral display, it is useful to know those species that can be expected to flower in a different season. For a short list of these see Appendix 3.

GUIDE TO THE SELECTION OF NATIVE PLANTS

Western Australian plants are adapted to our climate and local soil conditions therefore they are the obvious choice for your garden. Local plants encourage local birds, butterflies and insects etc which are their natural pollinators and lead to an environmentally friendly garden. Plant lists to suit your local soil type are available through the Society office.

EASY TO GROW NATIVE PLANTS FOR BEGINNERS

If you are a beginner to native plants gardening, it is good to start with local plants that are easy so that you will be assured of success. There are many such plants.

Trees and Shrubs

Local 'Wattles' Acacia spp 'Gum Trees' Eucalyptus spp 'One-sided Bottle Brushes' Calothamnus spp 'Honey Myrtles' Melaleuca spp 'Sea Urchin' Hakea laurina, H petiolaris Kunzea baxteri 'Geraldton Wax' Chamelaucium uncinatum 'Wedding Bush' Ricinocarpos spp Banksia media Banksia speciosa Banksia victoriae Banksia hookeriana Banksia burdettii Banksia baxteri Banksia ashbyi Senna spp

Marianthus ringens

Kennedia spp

Creepers

'Native Wisteria' *Hardenbergia comptoniana* Billardiera bicolor

Ground Cover and Fill-in Plants

Hemiandra pungens vars Grevillea spp groundcovers Patersonia spp Conostylis spp Gastrolobium spp Anigozanthos spp & hybrids Orthrosanthus spp Thryptomene spp

Annuals

'Everlasting Daisies' e.g., *Xerochrysum spp* & *Rhodanthe spp* 'Sturt's Desert Pea' *Swainsonia spp* 'Rottnest Daisy' *Trachymene coerulea* (Blue Lace Flower) *Brachyscome spp*

Consult list for growth sizes so that you can incorporate these appropriately into your garden.

PLANTS TO TRY AS YOU GAIN EXPERIENCE

Certain native plants have proven difficult to get into cultivation over the years. Some have been hard to strike and others hard to grow. Among these are some of our most attractive species. You may not succeed initially but as you become more experienced you will join those who are gradually taming the 'difficult' species. Examples of such plants are:

Actinodium calocephalum Adenanthos spp Andersonia spp Astroloma spp Hibbertia spp 'Cats Paws' Anigozanthos humilis 'Star Flowers' Calytrix spp 'Native Violets' Hybanthus spp 'Lambs Tails' Newcastelia spp Orchids Pimelea spp except P ferruginea 'Pink Myrtle' Hypocalymma robustum 'Pixie Mops' Petrophile linearis Platytheca spp 'Smoke Bush' Conospermum spp 'Red Bugle' Blancoa canescens 'Star of Bethlehem' Calectasia spp Hemiandra gardneri Hemiphora elderi Hovea spp Isopogon spp

Lachnostachys spp Lechenaultia spp Leucopogon spp 'Mulla Mulla' Ptilotus spp 'Native Cornflower' Brunonia australis 'Native Pomegranate' Balaustion spp 'Copper Cups' Pileanthus spp Crowea spp Cyanostegia spp Dampiera spp incl wellsiana and eriocephala Daviesia epiphyllum Darwinia spp Eremophila spp except E nivea & E decipiens Philotheca spp 'Feather Flowers' Verticordia spp 'Flannel Flowers' Actinotus spp 'Yellow Bells' Geleznowia spp Synaphea spp Tetratheca spp Homalocalyx spp Dryandra spp

More successful propagating methods being developed at the Botanic Gardens Kings Park and other research institutes, such as using smoke water and heat treatment etc along with tissue culture have enabled an increasing range of plants to become available through garden centres, nurseries and community plant sales.

NATIVE PLANTS FOR SPECIFIC PURPOSES

This section only includes plants that are known to be successful in cultivation in the Perth area to date. Many of these plants should be readily available from nurseries and some water wise garden centres specialising in Australian plants. They can also be propagated from either seed or cuttings (some from both). It is to be noted that there are many more native plants which make good garden subjects once they have become established in cultivation. For an introduction to some of these you are referred to the books' bibliography.

It must be realised that the expected mature size for these plants is only a guide. In the home garden, native plants often exceed the height reached in the wild. They will vary according to differences in soil, aspect and climate. Attention is drawn to the number of *Banksia* and *Dryandra* species that are medium to small shrubs and even groundcover or rockery garden subjects. So often only the 'Firewood Banksia' *Banksia menziesii* of the Perth metropolitan area is known. *Banksia* plants are especially recommended in a native garden because they are so typically Australian and so spectacular in flower both in colour and form. They are also very attractive to birds.

TREES

Very Tall Trees (16 - 80 metres or 50 - 250 feet)

Care should be taken in choosing tall trees for the home garden. Many are far too large for today's house block size. They are more suitable for parks, farm properties and avenues. Among these are 'Tuart' *Eucalyptus gomphocephala*, 'Karri' *E diversicolor*, 'Salmon Gum' *E salmonophloia*, 'Jarrah' *E marginata*, 'Marri' *E calophylla* and selected 'River Gum' *E camaldulensis*. Several species of large *Eucalyptus* are known to be 'self-shedding' gums. These can shed larger limbs periodically without warning so can be a danger in both home gardens and public spaces. Examples are 'Sugar Gum' *E cladocalyx*, 'Lemon Scented Gum' *E citriodora*, 'Spotted Gum' *E maculata*, *E salmonophloia*, *E diversicolor* and *E camaldulensis*.

Large Ornamental Trees (20 metres or 25-60 feet)

'Peppermint' Agonis flexuosa
'Common Sheoak' Allocasuarina fraseriana
'Rottnest Island Pine' Callitris preissii, C glaucophylla Eucalyptus gardneri, E spathulata, E stricklandii E cornuta, E salubris (heavy soil) Melaleuca croxfordiae
'WA Christmas Tree' Nuytsia floribunda* 'Bull Banksia' *Banksia grandis* 'Holly-leaved Banksia' *B ilicifolia* 'Swamp Banksia' *B littoralis, B verticillata* E woodwardii, *E calophylla 'Rosea'* 'Silky Oak' *Grevillea robusta*

**Nuytsia floribunda* is classed as one of twelve most spectacular flowering trees in the world and although it takes a long time to reach maturity, one should be tried in every garden and more widely in parks and medium strips.

Medium Trees (5-8 metres or 15-25 feet)

Acacia coriacea, A saligna, 'Mulga, A aneura (many forms), local Acacia species
'Native Cedar' <i>Taxandria juniperina</i>
Banksia attenuata, B baxteri, B littoralis 'Firewood Banksia' B menziesii, B occidentalis
'Acorn Banksia', <i>B prionotes</i>
Callistemon 'Kings Park Special, 'Weeping Bottlebrush'
Casuarina obesa
'Gungurru' Eucalyptus caesia, 'Silver Princess' E caesia ssp magna, 'Silver Marble Gum' E Crucis
E annulata, 'Illyarrie' E erythrocorys, 'White Mallee' E lehmannii, E youngiana, E macrandra,
E orbifolia, E formanii, E utilis, 'Weeping Gum' E sepulcralis, 'Scarlet Pear Gum' E stoatei,
E tetragona "Coral or Coolgardie Cum" E torguata E websteriana E victrix E puriformis E putans

E tetragona, 'Coral or Coolgardie Gum' *E torquata, E websteriana, E victrix, E pyriformis, E nutans*,

E 'Torwood' Hakea oleifolia

'Paperbarks' Melaleuca preissiana, 'Rottnest Island Tea Tree, M lanceolata, M nesophila, M huegelii, M viridiflora sp viridiflora

<u>Small Trees (to 5 metres approximately – to 15 feet)</u> Acacia cyclops, A inophloia, A longiphyllodinea, A lasiocalyx 'Swan River Cypress' Callitris pyramidalis Banksia brownii, B occidentalis Brachychiton gregorii 'Rottnest Pine' Callitris preissii Eremophila bignoniiflora Eucalyptus angulosa var angulosa, E desmondensis, 'Fuchsia Gum' E forrestiana, E dolichorhyncha, E kruseana, E nutans, E synandra, E albida Hakea laurina, H baxteri, H multilineata, H cucullata, H petiolaris, H francisiana, H minima Paraserianthes lophantha (fast growing) Pittosporum ligustrifolium 'Quandong' Santalum acuminatum, 'Sandalwood' S spicatum

Silver-leaved Trees Acacia inophloia

Eucalyptus crucis, E desmondensis, E orbifolia, E kruseana, E macrocarpa, E eudesmioides, E gongylocarpa, E rhodantha, E tetragona, E websteriana, E formanii, E caesia (large form), E caesia (small form), E albida, E preissiana Hakea francisiana, H multilineata, H petiolaris, H gammatophylla Grevillea berryana, G nematophylla Melaleuca argentea

Weeping Trees

Agonis flexuosa Allocasuarina decussata Callistemon viminalis 'Weeping Victrix' E victrix 'Silver Princess' Eucalyptus caesia ssp magna, E sepulcralis, E eudesmioides, E camaldulensis Melaleuca argentea Pittosporum ligustrifolium Taxandria juniperina

SHRUBS

Large Shrubs (3-7 metres or 10-20 feet)

Acacia rostellifera, A cyclops, A hemiteles Allocasuarina lehmanniana Banksia burdettii, B lehmanniana, B sceptrum, B speciosa Callistemon phoeniceus, C 'Kings Park Special' Eucalyptus tetraptera, E tetragona, E rhodantha, E preissiana, E grossa, E pyriformis, E macrocarpa, E pachyphylla, E oldfieldii, E websteriana Grevillea annulifera, G candelabroides, G excelsior, G leucopteris, G eriobotrya Hakea elliptica, H victoria, H drupacea, H bucculenta, H francisiana, H orthorrhyncha, H coriacea Melaleuca nesophila, M lutea, M huegelii Radyera farragei Regelia velutina

Medium Shrubs (2-4 metres or 6-12 feet)

Acacia conferta, A multispicata, A dentifera Actinostrobus pyramidalis Allocasuarina pinaster Banksia ashbyi, B bauera, B coccinea, B elderiana, B formosa, B hewardiana, B hookeriana, B laevigata, B lindleyana, B media, B nobilis, B praemorsa, B proteoides, B solandri, B tricuspis, B victoriae Calothamnus pinifolius, C quadrifidus 'Geraldton Wax, Chamelaucium uncinatum selections and hybrids 'Tree Smoke bush' Conospermum triplinervium 'Sticky Hop Bush' Dodonaea viscosa Grevillea apiciloba, G hookeriana, Grevillea olivacea forms Guichenotia macrantha, G ledifolia Hakea invaginata, H obtusa, H platysperma, H scoparia, H cucullata Kunzea pulchella (three forms), K baxteri, K glabrescens, K ericifolia Melaleuca calothamnoides, M diosmifolia, M elliptica, M incana, M huegelii (dwarf), M spathulata, M megacephala, M macronychia Regelia megacephala, R ciliata 'Wedding Bush' Ricinocarpos tuberculatus Scholtzia involucrata, S parvifolia

Small Shrubs (to 2 metres or 2-6 feet)

Acacia truncata, A drummondii (small and larger forms), A glaucoptera, 'Prickly Moses' A pulchella, A incurva, A myrtifolia, A trigonophylla Alyogyne hakeifolia, A huegelii Banksia audax, B caleyi, B candolleana, B dryandroides, B laricina, B nutans, B sphaerocarpa, B violacea, B pilostylis Beaufortia aestiva, B squarrosa, B sparsa Billardiera heterophylla Boronia alata, B denticulata, B molloyae, B heterophylla, B megastigma 'One Sided Bottlebrush' Calothamnus chrysantherus, C quadrifidus ssp homalophyllus, C quadrifidus, C sanguineus, C validus, C villosus, C blepharospermus, C gilesii Calytrix fraseri, C tetragona, C acutifolia Chamelaucium axillare, C drummondii, C uncinatum x megalopetalum Darwinia citriodora Diplolaena grandiflora, 'Yanchep Rose' D angustifolium, D dampiera, D microcephala Dodonaea larreoides, D adenophora, D microzyga Dryandra polycephala, D speciosa, D quercifolia Eremea beaufortioides, E violacea, E pauciflora, E fimbriata Eremophila laanii, E youngii, E calorhabdos, E sturtii Grevillea bipinnatifida, G pinaster, G thelemanniana, G 'Robyn Gordon', G 'Superb', G 'Ned Kelly' Hakea pycnoneura, H undulata, H invaginata Isopogon tridens, I trilobus, I cuneatus, I latifolius, I sphaerocephalus, I dubius, I divergens Kunzea pauciflora, K preissiana, K recurva

Leptospermum sericeum Melaleuca systena, M conothamnoides, M coccinea, M fulgens, M leptospermoides, M laterita, M filifolia, M pentagona, M pulchella, M radula, M spathulata, M suberosa, M fulgens ssp steedmanii, M ciliosa Nematolepis phebalioides Petrophila biloba Pileanthus bellus Pimelea ferruginea, P rosea Pultenaea skinneri Ricinocarpos glaucus Scholtzia capitata, S laxiflora Senna artemisioides ssp x coriacea, S artemisioides, S glutinosa ssp chatelainiana, S glutinosa ssp pruinosa, S pleurocarpa, S artemisioides ssp x sturtii Templetonia retusa Thryptomene elliottii, T denticulata Verticordia plumosa, V grandis

Dwarf Shrubs (less than 0.05 metres or 2 feet)

Acacia nervosa, A bracteolata, A flagelliformis, A varia var parvifolia 'Kangaroo Paws' Anigozanthos spp and hybrids Astartea heterantha Babingtonia camphorosmae Banksia carlinoides, B pterifolia, B tridentata, B fraseri, B lindleyana, B nana, B nivea Beaufortia eriocephala, B elegans, B schaueri Boronia lutea, B crenulata Chamelaucium ciliatum Calytrix aurea, C flavescens, C acutifolia, C strigosa Chorizema cordatum, C ilicifolia, C varium Correa minor, C pulchella Darwinia macrostegia, D lejostyla, D oldfieldii, D neildiana Diplopeltis huegelii, D eriocarpa, D petiolaris Enchylaena tomentosa Eremaea purpurea, E pauciflora 'Emu Bush' Eremophila nivea, E glabra, E maculata, E purpurascens, E drummondii Grevillea synapheae, G pimeleoides, G saccata, G fasciculata, G tenuiloba, G preissii forms Hakea myrtoides Hovea elliptica, H trisperma, H pungens, H chorizemifolia Hypocalymma cordifolium, 'Pink Myrtle' H robustum, H xanthopetalum, H strictum Leucophyta brownii Melaleuca huegelii (Dwarf form), M trichophylla, M violacea, M scabra, M tuberculata Myoporum debile Petrophile linearis, P ericifolia Scaevola crassifolia, S nitida Thryptomene baeckeacea, T strongylophylla, T stenophylla, T hyporhytis Tricoryne elatior Verticordia grandiflora, V mitchelliana, V monadelpha, V picta, V drummondii, V chrysanthella

Silver-leaved Shrubs

Acacia cultriformis, A hemiteles Callistemon phoeniceus Conostylis candicans - tufted Enchylaena tomentosa Eucalyptus macrocarpa, E rhodantha, E preissiana, E albida, E crucis, E kruseana, E pleurocarpa Eremophila nivea, E laanii, E youngii Grevillea leucopteris, G preissii 'Sea Spray', G fistulosa Guichenotia macrantha, G ledifolia Hakea cinerea, Hakea francisiana Kunzea pulchella (two grey forms) Leptospermum sericeum Leucophyta brownii Melaleuca incana, M scabra, M holidayii, M pulchella, M holosericea, M spicigera Olearia axillaris Regelia velutina Rhagodia nutans Scholtzia involucrata Senna artemisioides

<u>Weeping Shrubs</u> Acacia hemiteles, A merinthophora, A pendula, A lasiocalyx, A longiphyllodinea Callistemon phoeniceus Melaleuca micrantha, M nesophila, M incana

GROUND COVERS

Acacia tetraptera, A glaucoptera Adenanthos cuneatus, A meisneri, A flavidiflorus Banksia petiolaris, B gardneri, B ionthocarpa, B repens, B blechnifolia, B prostrata Conostylis candicans, C prolifera Dampiera diversifolia, D linearis, D trigona Darwinia pinifolia Disphyma crassifolium Dodonaea ceratocarpa Einadia nutans Eremophila glabra prostrate forms, E biserrata Hibbertia grossulariifolia Gastrolobium praemorsa, G latifolium, G truncatum Grevillea curviloba (remove upright growth), G 'Gin Gin Gem' G depauperata, G nudiflora, *G crithmifolia* (prostrate form) Hemiandra pungens (colour forms), H linearis Kennedia coccinea, K macrophylla, K beckxiana, K glabrata, K stirlingia, K prostrata, K carinata Pelargonium havlasae Rhagodia nutans Scaevola aemula, S calliptera, S striata Thryptomene baeckeacea (prostrate form)

ANNUALS

'Swan River Daisy' Brachyscome iberidifolia Xerochrysum bracteata (pink, yellow, white) Cotula spp Hyalosperma 'Spring Awakening Series' Podolepis spp Rhodanthe chlorocephala, R manglesii, R filifolia 'Rottnest Island Daisy' or 'Blue Lace Flower' Trachymene coerulea Waitzia spp

PLANTS FOR POTS, ROCKERIES, SMALL GARDENS, COTTAGE GARDENS AND RAISED BEDS

Acacia drummondii ssp affinis, A lasiocarpa, A nervosa, A willdenowiana Actinodium calocephalum, A cunninghamii Anigozanthos bicolor, A manglesii, A pulcherrimus, A rufus, A viridis, A humilis Banksia blechnifolia, B dallanneyi, B fraseri, B gardneri, B nana, B petiolaris, B pteridifolia, B repens, B rufa, B violacea Calytrix spp Chorizema dicksonii, C diversifolium, C rhombeum, C varium Conostylis spp, C candicans, C aculeata Correa spp Dampiera linearis, D trigona, D teres *Eremophila glabra, E drummondii, E maculata* Everlasting Daisies and other annuals Goodenia scapigera and other spp Grevillea synapheae, G saccata, G pimeleoides, G preissii Hibbertia stellaris, H porongurupensis Lechenaultia biloba, L formosus, L linarioides, L laricina, L superba Hypocalymma angustifolium, H robustum, H xanthopetalum Hovea sp Kennedia prostrata, K glabrata 'Morning Iris' Orthrosanthus laxus, O polystachyus, O multiflorus 'Purple Flag' Patersonia occidentalis, P umbrosa 'Vanilla Lily' Sowerbaea laxiflora Scaevola anchusifolia, S calliptera, S phlebopetala, S thesioides 'Trigger Plants' Stylidium adnatum and spp' 'Fringed Lily' Thysanotus multiflorus, T triandrus Velleia trinervis, V macrophylla, V foliosa

CLIMBING PLANTS

Billardiera fraseri, 'Australian Bluebell' B fusiformis, B drummondii, B floribunda Chorizema diversifolium Clematis pubescens, C linearifolia 'Native Wisteria' Hardenbergia comptoniana (Three colour forms) Gompholobium polymorphum Kennedia beckxiana, K coccinea, K macrophylla, K nigricans, K prostrata, K rubicunda Marianthus ringens, M erubescens

GRASSES FOR HORTICULARAL USE (USE YOUR OWN LOCAL GRASSES)

'Swamp Wallaby Grass' Amphibromus nervosus
'Needle Wallaby Grass' Rytidosperma acerosa, 'Velvet Wallaby Grass' R pilosa,
'Small Wallaby Grass' R setacea
'Native Lemon Grass' Cymbopogon obtectus
'Lustred Lovegrass' Ergotis elongata
'Mat grass' Hemarthria uncinata
'Weeping Grass' Microlaena stipoides
'Marine Couch' Sporobolus virginicus

SEDGES AND RUSHES

Baumea arthrophylla, B articulata, B juncea, B preissii, B riparia, B vaginalis Bolboschoenus caldwellii Carex appressa, D divisa, C fascicularis, C inversa, C tereticaulis Chordifex chaunocoleus Eleocharis acuta, E sphacelata Gahnia trifida Ficinia nodosa Lepidosperma gladiatum, L longitudinale, L tetraquetrum Melanostachya ustulata Schoenoplectus pungens, S validus Juncus kraussii, J pauciflorus, J pallidus, J subsecundus Hopkinsia anoectocolea Loxocarya gigas, L magna Tremulina tremula Typha domingensis

PLANTS SUITABLE FOR STREET VERGES

Many native plants are drought adapted and admirably suited for street verge planting and as such they do not need a lot of care and attention. Trees should be chosen so that they will not need to be pruned because of interference with power lines and yet provide shady canopies for the comfort of pedestrians and parked motorists during our hot weather. There is a wide range of small to medium flowering trees that can be used. Some will give an added bonus with a colourful floral display in season and will attract native birds. In particular, they should be selected to meet the needs of the location taking into consideration such things as the width of the street verge, the garden planting behind the verge and the width of the block. Thought should also be given to the presence of overhead wires, soil type proximity to the sea and exposure to wind.

Trees for Street Verges

Allocasuarina verticillata Brachychiton diversifolius, B gregorii, B hybrida Callistemon 'Kings Park Special' C 'Perth Pink', C viminalis Casuarina obesa Eucalyptus torquata, E formanii, E spathulata, E platypus, E calophylla 'Rosea', E crucis, E macrandra, E ficifolia, E sideroxylon var patens, E victrix Hakea francisiana, H multilineata, H laurina, J petiolaris, H oleifolia Hymenosporum flavum Melaleuca croxfordiae, M huegelii, M nesophila, M lanceolata, M cuticularis, M viridiflora Pittosporum ligustrifolium

Ground Covers for Street Verges

Water shortage and low rainfall have initiated rethinking on the subject of grass lawns as the only acceptable verge cover. Native plants can be used as an alternative. They will stabilise the sand and will not require the same amount of water and attention. Before planting your verge this way, you should contact the local council or shire regarding laws about street verge planting. Species suitable for this purpose include the following:

Acacia spp (low growing and prostrate) Anigozanthos cunninghamii, Anigozanthos spp and hybrids Banksia prostrate species Annuals for seasonal affect Carpobrotus virescens Conostylis candicans (Tufted and groundcover forms), C aculeata, C prolifera Darwinia pinifolia Dichondra repens Dianella revoluta Dodonaea ceratocarpa Enchylaena tomentosa Eremaea pauciflora Eremophila biserrata, E subteretifolia, E glabra forms Grevillea thelemanniana (green and grey foliage prostrate forms), G obtusifolia (prostrate form), G curviloba (remove upright growth), G bipinnatifida, G crithmifolia (prostrate form), G maxwellii, G preissii Hemiandra pungens (three prostrate forms), H glabra, H linearis Kennedia prostrata, K rubicunda, K nigricans, K macrophylla, K glabrata Leucophyta brownii Melaleuca cardiophylla, M trichophylla, M violacea Patersonia occidentalis Rhagodia nutans (Green and grey forms) Scaevola globifera Thryptomene baeckeacea, T hyporhytis, T stenophylla, T strongylophylla Thysanotus multiflorus, T triandrus Verticordia mitchelliana, V monadelpha var callitriche, V staminosa

PLANTS FOR PARTICULAR SITUATIONS

If you require plants for particular situations e.g., seaside planting, swampy ground, dry conditions, alkaline conditions, heavy or clay soils, shade etc, you are directed to the list of books in the bibliograph. Local specialist native plant nurseries and garden centres will also be able to help.

LOCAL PLANTS AND BIODIVERSITY

Our local environment can be supported by the local plants that are grown in parks and gardens. Local flora species support local fauna species to maintain a healthy local functioning biodiversity in each neighbourhood despite development.

Local plants can be propagated at the home garden or with community growing groups. They are also available at local specialist native plants garden centres or from community native plant sales such as Branches of the Wildflower Society of WA and Friends of Kings Park Plant Sales.

ENVIRONMENTAL WEEDS AND WEEDY SPECIES

Some previously listed species in the Hints book particularly those from other states of Australia have unfortunately over time become naturalised due to the lack of their natural predators and many have invaded our natural bushland areas. Care must be taken if growing these species and they should be assessed to your own area and maintained with care or removed and disposed of carefully to prevent further spread. Any regrowth of seedlings needs to be monitored and managed.

Eastern States Species

Acacia baileyana, A decurrens, A longifolia, A podalyriifolia, A pycnantha, A iteaphylla Allocasuarina cunninghamii Callitris columellaris Callistemon viminalis Eucalyptus cladocalyx, E maculata, E globulus Leptospermum laevigatum

Western Australian Species Noted to be Naturalising into Bush Reserves

Acacia lasiocalyx Chamelaucium uncinatum Calothamnus quadrifidus Eucalyptus platypus Hibbertia cuneiformis Kunzea baxteri Melaleuca nesophila

BIBLIOGRAPHY

To keep this book inexpensive and focussed on growing, photographs for identification purposes have not been included in it. This bibliography contains a list of books that can be referred to for photos to aid identification. Information can be researched at the Honor Venning Library, on the internet or some purchased from the society.

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Commented [WO3]: Needs updating and many listed below do not have dates

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APPENDIX 1 – NAME CHANGES

Name in Prior Editions Actinostrobus pyramidalis Austrodanthonia acerosa Austrodanthonia pilosa Austrodanthonia setacea Baeckea camphorosmae Billardiera bicolor Calothamnus homalophyllus Dryandra formosa Dryandra hewardiana Dryandra lindleyana Dryandra nobilis Dryandra polycephala Dryandra praemorsa Dryandra proteoides Dryandra quercifolia Dryandra speciosa Eucalyptus caesia spp caesia Eucalyptus caesia ssp magna Eucalyptus platypus var heterophylla Isolepis nodosa Melaleuca citrina Pittosporum phylliraeoides Pronaya fraseri Sollya fusiformis Sollya drummondii Sollya heterophylla

(Refer to Florabase website - Current Name) Callitris pyramidalis Rytidosperma acerosa Rytidosperma pilosa Rytidosperma setacea Babingtonia camphorosmae Marianthus bicolor Calothamnus quadrifidus ssp homalophyllus Banksia formosa Banksia hewardiana Banksia dallanneyi Banksia nobilis Banksia polycephala Banksia praemorsa Banksia proteoides Banksia quercifolia Banksia speciosa Eucalyptus caesia Eucalyptus caesia Eucalyptus utilis Ficinia nodosa Melaleuca lutea Pittosporum ligustrifolium Billardiera fraseri Billardiera fusiformis Billardiera drummondii Billardiera heterophylla

APPENDIX 2 – SEED SOWING GUIDE

A – Autumn LW – Late Winter ES – Early Spring S – Spring

Su – Summer

A bicolor	А	Hypocalymma	A.S
A flavidus	A.S	Indiaofera	S
A humilis. A preissii	A	Ipomoeg	S
A manalesii	S. S	Isopogon	A. LW
A rufus. A pulcherrimus	A. LW. S	Jacksonia	A.S
Abutilon	S	Johnsonia	A
Acacia	S	Kennedia	A.S
Actinodium	A	Keraudrenia	A
Actinotus	LW	Kingia	A
Adenanthos	A, LW	Kunzea	A, S
Agonis	A, S	Labichea	A, S
Agrostocrinum	A	Lambertia	A, LW
Albizia	S	Lasiopetalum	A
Allocasuarina	А	Lechenaultia	A, LW
Alyogyne	A, S	Leptospermum	A, S
Andersonia	A	Leucopogon	A
Anigozanthos viridis	А	Lobelia	Α
Astartea	A, S	Macropidia (Germination 2nd Year)	Su
Astroloma	А	Macrozamia (Seed takes 12 months	
		to mature, very slow grower)	
Baeckea	A, S	Malleostemon	A, S
Banksia	A, LW	Marianthus	A, LW
Beaufortia	A, S	Melaleuca	A, S
Billardiera	A, LW	Micromyrtus	A, S
Blancoa	А	Millotia	Α
Boronia	A, S	Myoporum	A, S
Bossiaea	А	Nematolepis	Α
Brachyscome	A, S	Nemcia	A, S
Brachysema	A, S	Newcastelia	S
Brunonia	А	Nuytsia	Α
Burchardia	А	Olearia	A, S
Bursaria	A, LW	Orthrosanthus	Α
Calandrinia	A, LW	Patersonia	Α
Calectasia	А	Persoonia	Α
Callistemon	A, S	Petalostylis	ES
Callitris	A, S	Petrophile	A, LW
Calothamnus	A, S	Philotheca	A, LW
Calytrix	A, LW	Phymatocarpus	A, LW
Casuarina	A, S	Pileanthus	A, LW
Cephalipterum	Α	Pimelea	A, LW
Chamelaucium	A, LW	Pittosporum	A, S
Cheiranthera	Α	Pityrodia	A, S

Chorizema	A, S	Podolepis	A
Clematis	A	Pronaya	S
Codonocarpus	A, LW	Prostanthera	A, LW
Conospermum	A, LW	Ptilotus	S
Conostylis	A	Pultenaea	A, S
Craspedia	S	Regelia	A, S
Crotalaria	S	Rhagodia	A, S
Crowea	A, S	Rhodantha	A
Cyanostegia	A, LW	Ricinocarpos	A, LW
Dampiera	A, LW	Rulingia	A, S
Darwinia	A, LW	Santalum	A
Daviesia	A, LW	Scaevola	A
Dianella	A, S	Schoenia	A
Dillwynia	A, S	Scholtzia	A, S
Diplolaena	A, S	Senna	S
Diplopeltis	A, S	Sida	S
Dodonaea	A, S	Solanum	S
Dryandra	A, LW	Sollya	S
Enchylaena	A, S	Sowerbaea	
Eremaea	S	Sphaerolobium	A, S
Eremophila	LW, S	Stackhousia	A, S
Eucalyptus	S	Stirlingia	A
Eutaxia	A, S	Stylidium	A, LW
Ficus	S	Stypandra	A
Gastrolobium	A, S	Taxandria	A, S
Geleznowia	A	Templetonia	A, S
Gompholobium	A, S	Tephrosia	S
Gomphrena	LW, S	Tetratheca	A
Goodenia	A, LW	Thomasia	S
Gossypium	S	Thryptomene	A
Grevillea (Northern & Inland)	ES, LW	Thysanotus	A
Grevillea (Southern)	A	Trachymene	A, LW
Guichenotia	A, S	Velleia	A
Hakea (Northern and Dry Inland)	ES, LW	Verticordia	Su, A
Hakea (Southern)	A	Waitzia	A
Halgania	A, LW	Wehlia	A, ES
Hardenbergia	A, S	Westringia	A
Hemiandra	A, S	Xanthorrhoea	A
Hibbertia	<i>S, A</i>	Xanthosia	A, LW
Hibiscus	S	Xerochrysum	A
Homalocalyx	A, ES	Xylomelum	A
Ночеа	A, S		

APPENDIX 3 - FLOWERING TIMES

Summer Through Autumn

Anigozanthos flavidus Anigozanthos hybrids Anigozanthos pulcherrimum Anigozanthos rufus Banksia burdettii Banksia speciosa Banksia prionotes Banksia menziesii Banksia victoriae Banksia victoriae Banksia verticillata Beaufortia aestiva Beaufortia sparsa Beaufortia squarrosa

Winter Through Early Spring

Acacia lasiocarpa Acacia trigonophylla Acacia alata Acacia glaucoptera Acacia spectabilis Banksia baueri Banksia candolleana Banksia laricina Correa reflexa Darwinia oldfieldii Diplolaena grandiflora Eucalyptus caesia Eucalyptus burdettiana Eucalyptus kruseana Eucalyptus forrestiana Eucalyptus lohrestiana Eucalyptus lehmannii Eucalyptus orbifolia Eucalyptus stoatei Eremophila decipiens Grevillea bipinnatifida Grevillea 'Robyn Gordon' Calytrix flavescens Calytrix fraseri Eucalyptus erythrocorys Eucalyptus ficifolia Eucalyptus macrandra Hemiandra pungens Melaleuca huegelii Melaleuca striata Pileanthus filifolius Swainsonia formosa Verticordia densiflora Verticordia nitens

Grevillea dielsiana Guichenotia macrantha Guichenotia ledifolia Hakea cucullata Hakea bucculenta Hakea francisiana Hakea laurina Hakea multilineata Hakea petiolaris Hypocalymma robustum Hypocalymma angustifolium Lechenaultia formosus Leptosema aphyllum Senna artemisioides Senna chatelainiana Senna nemophila Taxandria juniperina Templetonia retusa Thryptomene saxicola Thryptomene strongylophylla NOTES