Department of Parks and Wildlife

WILDLIFE NOTES

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PROPAGATE CUTTINGS TO REPLENISH THE BIODIVERSITY IN YOUR *LAND FOR WILDLIFE*

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Most planting programmes for revegetation, whether in corridors or blocks, use trees and larger shrubs grown from seed. This may be collected from local plants or sourced elsewhere but there are lots of plants, often important in the local ecosystem, that are difficult to raise from seed.

When revegetating for biodiversity, it is important to support existing plant communities by replacing and relocating understorey to rebuild degraded areas. A wider range of understorey plants will replenish depleted biodiversity and create a more diverse habitat for native fauna. This also helps to encourage healthy soil flora and soil fauna to newly planted areas.

A verticordia garden in Mandurah, all grown from cuttings, with many species reseeding. Photo: Hazel Dempster

Many of the required understorey plant species do not produce sufficient viable seed or are difficult to grow from the seed produced. Growing these plant species from cuttings and vegetative material is a viable option which will provide more plant species to assist biodiversity replenishment.

When planning any revegetation project, especially one that incorporates biodiversity, it is important to understand the landscape and soil conditions of the project area. Many plants are quite specific in their preferred landscape position, soil type and water requirements. Put in the correct place, they will grow well. Put in an inappropriate place, they will struggle, or die. So it is suggested that you take the trouble to study nearby bushland to plan which plant species will be used, and where, in your project. You can photograph and tag them, ready for later collection of propagating material. Armed with this knowledge, you can plan the collection of material to be grown and replaced back into the correct areas. It is important also that the material is collected at the correct time of year for each specific species.

Incidentally, it is not essential that you know the names of the plants you wish to grow, though it certainly helps to do so, especially if you wish to look up details of the plant in reference books or online. However, you should make sure that you have a good photograph of a flowering specimen of each plant you use, accompanied by notes about its preferred landscape position and soil type. If you want help with exact identification, contact your *Land for Wildlife* Officer (*LFWO*), or one of the references listed on page four of this document.

Propagation

You can collect propagating material from your own property without needing a Flora Collection Licence from the Department of Parks and Wildlife (DPaW). If collecting from other privately owned land you need the landowner's permission but if it is from a reserve (including a road reserve), you need permission and a collecting licence – contact your *LFWO* or DPaW for advice on how to obtain one. Plant material can also be salvaged from areas that may have to be cleared under permit for fence lines, for example. Fire breaks are always a good source for fresh propagating material. These collections can be planned ahead before such disturbance is carried out.

Right, you are ready to go! This Wildlife Note assumes that you know how to collect and grow seeds, but have not attempted propagation by cuttings as being 'too difficult'. They are certainly more fiddly, but can be very satisfying, and will give you a huge range of magnificent and unusual plants to put into your revegetation area. Why not try?

Facilities required

A purpose-built growing house or a shade house or minimal equipment in sheltered conditions.

Equipment

- Work bench or table
- Plant labels with 3B pencils for recording
- Dibbler or wooden chopstick
- Sharp secateurs
- 150mm nursery pots
- Clear 2 litre plastic bottles with 4-5cm of the base removed for pot covers to retain moisture

or

- deep cell trays or tubes which can be used in large plastic storage container.
- hormone gel - *Clonex Purple*

This photo shows the sequence of setting the tip cuttings. Photo: Hazel Dempster

Cutting mix

- Use a seedling mix and *Perlite*, 50/50 variable,

or as an alternative,

- use local clean topsoil and coarse quartz or river sand, 50/50 variable. Microwave moist mix for 10 minutes.

(Caution: do not use topsoil from any area where there is a heavy weed burden, or where you suspect that *Phytophthora* dieback might be present. Also, don't use sand from a brackish or saline river unless it is well washed in fresh water.)

Collection of plant material

Collect cutting material from the plants you have already selected for the purpose of replenishment of communities in bushland and revegetation projects. Remember that disease can be carried between plants on the blades of cutting tools, so make sure they are clean. Sterilise tools by spraying methylated spirits onto the blades and leave for a couple of minutes to dry off. Ideally, this should be done between plants.

Plan for optimal cutting collection times. For most plants, the best time to collect is a short while after flowering or when new growth is obvious and available.

Collection of cuttings for biodiversity

- Collect cuttings from numerous shrubs of the same species to ensure a good cross-section of the gene pool.
- Select hardened tip growth, with an average length of about 10cm depending on species.
- A collection of cuttings from mixed species can also be made and placed in the same container to strike. Symbiotic relationships between different species can often encourage each cutting to strike.

Seedlings and new growth from lignotubers and suckers from road edges, firebreaks and disturbed areas are often ideal cutting material. Seedlings can be pulled out or cut off at ground level. At the preparation bench, remove the root system at the base of the stem, then treat as normal cuttings. This material strikes very readily, often with species that are difficult to strike with older material (eg suckers from snottygobble lignotubers). In suspected dieback-infested areas, recognised dieback procedures must be carried out as needed.

Plastic storage trays used as containers for the cuttings. Photo: Hazel Dempster

Some plants grow in tufts and their basal rosettes and rhizomes can best be divided in autumn when new roots appear from the base of the previous year's new growth.

To keep propagation material fresh when collecting, enclose it in a plastic bag containing moistened tissues or paper towels. Remove any excess moisture and then place the bagged material into a cooler or home fridge until ready to use.

Prepare work area

All equipment including secateurs pots, plastic bottle covers and work benches used for propagation should be clean to prevent contamination from fungal spores and bacterial infection. When using potting and cutting mixes always follow the directions for use as indicated on the bag. Cover the work bench area with newspaper.

The preparation of cuttings for propagation is best carried out in a sheltered area protected from direct sun and wind. Prepare and fill pots to the top with good quality moistened cutting mix.

Tip cuttings

Select single stem cuttings or branched cuttings. Cut plant material to size, an average length of 10cm depending on type of foliage and plant species. Remove some leaves from the lower stem of the cutting. Lower leaves can either be carefully stripped downwards or pulled upwards off the stem or cut off. This prevents the leaves rotting in the soil. Reduce the area of leaf for large-leaved species.

Spray the cutting material with water occasionally to keep it moist.

Setting cuttings after preparation

- Dip the cutting into hormone gel in a small container. *Clonex Purple* is recommended for general cuttings, having proven to produce the most successful strike rate. The gel should cover at least the lower 2–3cm of the stem to encourage a dense and stable root system. Store the gel in a fridge.
- Using a dibbler, set and firm the cuttings up to half way into the soil and at least 1cm apart so that the foliage is not touching. You can have at least 20 cuttings per 150mm pot depending on cutting size.
- Gently water in to settle soil around the cuttings.
- The cuttings may be sprayed with fungicide such as *Previcur* to prevent fungal attack.

After care

Place a clean, clear cover bottle over the cuttings, and completed cutting pots should be placed in a shade house or in a protected area away from direct sun and wind.

Keep the soil moist and the cuttings covered, as this will prevent dehydration. Initially, check soil moisture daily then less frequently after a week or so. After a few weeks, pots can be checked and any deteriorated cuttings carefully removed.

Alternative method

Another method is to use a large opaque plastic storage container with a lid for protection and a few holes in the base to allow the excess water to escape (see photo 3). The pots or trays of cuttings are placed in the container and covered with a lid. Cuttings are watered daily initially and then every few days or as needed depending on weather conditions.

The container is kept in an area with very early morning sun only. Containers are best kept in a small shade house or sheltered patio.

Nicely rooted Hibbertia *cuttings. Photo: Hazel Dempster*

Propagation

A variety of cuttings ready for tubing. Photo: Hazel Dempster

Potting up

Cuttings usually produce roots after about three to four weeks, depending on the plant species and conditions, but they need longer time to produce good roots. Carefully tap out the rooted cuttings from the mix, keep them moist and pot them into tubes or pots with native plant potting mix and a small amount of controlled release native plant fertiliser for growing on. Continue to keep the plants in a sheltered place with watering for a few days until settled.

Division of tufted and perennial plants

- Tufted and perennial plants can be divided to form new plants. Collect in March to July when the new season's roots are appearing from the base of last year's new growth sections.
- The plants are separated by gently pulling the sections or rhizomes of the plants apart, or cutting with a clean sharp knife (or sharp pointed secateurs for intricate species) to form individual plants. Trim away all the old roots and remove damaged and dead leaves without damaging any new season's roots. Treat these sections as for tip cuttings. A great sense of satisfaction will come as these methods, when well practiced, begin to produce, in small numbers initially, species that have been classed as 'difficult' for many years.

About the author

Hazel E. Dempster is a horticultural expert and a life member of the Wildflower Society of Western Australia. She is also a specialist consultant to EcoCulture Ltd. She can be contacted on: hazeldempster@bigpond.com

References

- Hints on Growing Native Plants: Tenth Edition 2013: Wildflower Society of Western Australia.
- Plant Rescue from Doomed Bushland: Hazel E Dempster - Wildflower Society of WA Newsletter August 2003. Vol **41** No. 3: 2-4.
- Visit DPaW's plant identification database at: www.florabase.dpaw.wa.gov.au
- To find out more about the Wildflower Society of Western Australia, email: wildflowers@ozemail.com.au

All of these are considered difficult to grow. Photo: Hazel Dempster

A farm garden at Gingin, grown from cuttings. Photo: Hazel Dempster

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