A Guide to Wetland Management on the Swan Coastal Plain

Edited by:

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Most of the species recommended for wetland planting are very easy to grow from seed. This is something that you can do in your own home without expensive equipment.

Growing plants from seed also helps to maintain genetic diversity and preserve local varieties.

SEED COLLECTION

There are four main genera which are commonly used in wetland rehabilitation projects. The seed of each has different characteristics and so they are best treated separately.

• Eucalypts:

The main species involved are *E. rudis*, *E. calophylla*, *E. marginata*, *E. gomphocephala* and *E. todtiana*. The seeds of the marri (*E. calophylla*) are large, black and quite conspicuous. They can often be collected from the ground beneath large marri trees in the autumn. Alternatively you can pick the marri nuts and store them in a warm, sunny place for several weeks until they open and the seeds can then be shaken out. The other species have much smaller seeds and you will need to collect the nuts in autumn and dry them first. The seeds may then be shaken or scraped out of the nuts. You will obtain a mixture of seeds and filler which is suitable for planting.

• Melaleucas:

Four species of melaleuca are commonly used in wetland rehabilitation. They are *M. raphiophylla*, *M. teretifolia*, *M. cuticularis* and *M. preissiana*. The seed of these species is a fine brown powder which can be readily scraped from the dry nuts. The nuts should be collected in autumn from the stems of mature trees. Always select the oldest nuts as they take several years to mature. The nuts should be placed in a container and left in a warm, sunny location for several weeks to dry. The container should be shaken occasionally to mix the nuts and to dislodge the seeds. The seeds will fall to the bottom of the container and the empty nuts may be skimmed off the surface leaving a layer of fine, powdery seed.

• Banksias:

Four species of banksia are frequently used in wetland rehabilitation. They are *B. attenuata*, *B. grandis*, *B. littoralis* and *B. menziesii*. Banksias have large winged seeds which may be removed from the nuts by hand. Collect the nuts from the
trees in autumn and dry them in a warm, sunny location for several weeks. The seed pods will open and release two large, winged seeds and a woody filler. The fillers may be removed and discarded. The drying and opening process can sometimes be accelerated by gentle heating of the banksia nuts.

- **Acacias:**

Two wattles are commonly used in wetland rehabilitation. They are *A cyclops* and *A saligna*. Wattles have seed pods similar to beans and the seeds resemble small bean seeds. They may be removed from the pods by hand. The pods should be picked in early summer before they drop from the tree.

Many other wetland species produce viable seed which is suitable for home planting. Some of the smaller shrubs and creepers produce seed pods similar to the wattles. The woody pear, *Xylomelum occidentalis*, has large, woody, pear-shaped nuts which yield two very large, winged seeds each - similar to banksia seeds.

**PLANTING SEEDS**

The planting techniques are slightly different for each of the four genera:

- **Eucalypts:**

Prepare a seed tray with about 3 cm depth of moist soil. Sprinkle the seeds (and filler material) thinly over the surface. Mix the seed with the soil on the surface and spray lightly and regularly with water. Larger seeds, such as the marri, may be planted directly into small pots. Just push the marri seeds into the moist soil. The best time to plant eucalypts is in autumn, soon after the seed is collected. Germination should occur in about two weeks after planting.

- **Melaleucas:**

Sprinkle the powder thinly and uniformly over the surface of the soil in a seed tray. Use a fine mister to spray the seed regularly with water. Plant the seed in the early spring for the best results. Keep the seedlings in the tray until they have developed at least two sets of leaves. If you achieve a heavy germination it is advisable to thin the crop to get the best results.

- **Banksias:**

These large seeds should be planted directly into pots which are at least 10 cm deep. Banksias put down a taproot immediately and this will often be several centimetres long before the first leaves appear. Good results can be obtained by planting the seeds in the autumn as soon as they are removed from the nuts. Germination usually takes several weeks and is often facilitated by heavy rain.

- **Acacias:**

These seeds have a hard coat and they are difficult to germinate without treatment. One method is to chip the corner off the seeds with a sharp object and then drop them into hot water. Leave the seeds in the water for several hours and they will swell. Then plant them directly into the soil. You will obtain good results from spring planting.

Note that it is advisable to use potting mix or disease-free soil for your planting. Great care should be taken not to spread diseased soil, as dieback disease can devastate native flora. Never take soil from an area where there is any evidence of dieback.

**TRANSPLANTING**

When the seedlings have grown to a height of 2-3 cm they should be transplanted into larger containers. You can also thin them at this stage if you wish. Milk cartons or 10 cm diameter pots are ideal for this first potting on. Remember to cut small drainage holes in the bottom of the milk cartons and fill them with wetland soil. Try to avoid root damage in transplanting the seedlings and water them frequently for the first few days afterwards. Never transplant in hot weather and keep the seedlings out of strong sunlight for a couple of weeks until they have adapted to the change.

Banksias survive best if they are kept in pots for two years before planting out. This gives them time to develop a fibrous root system.
You should pot them on into 30 cm plastic pots after twelve months in the smaller pots.

It is often desirable to grow melaleucas on in larger pots before planting out close to wetlands. This is because they may be drowned by rising water if they are too small. Most melaleucas enjoy seasonal inundation provided their foliage remains out of the water.

**CARE OF SEEDLINGS**

You will need to protect your seedlings from attack by snails, caterpillars and worms. Snails love melaleuca seedlings and one hungry snail can eat a hundred melaleuca seedlings in one night. Snail pellets, snail traps and midnight inspections are recommended. Caterpillars and worms are common in spring and can be easily removed by hand.

Most seedlings will benefit from small applications of slow release fertiliser. (Banksias generally do not appreciate fertiliser.) One or two pellets in each container will promote the growth of foliage and the development of the root system.

Sunshine and water are also essential for healthy plant growth. Seedlings will need daily watering in the summer months.

Some shelter from the summer sun will also be beneficial, particularly for small seedlings. Larger pots may be kept in the full sun provided they are watered regularly.

**FURTHER READING**

*How to Germinate Native Tree and Shrub Seed Enjoyably,* available from Greening Australia.

*Melaleuca raphiophylfa seedlings in a plastic seed tray*