

Coastal Seed Collection Workshop for NACC, at AIRI Separation Point Geraldton Prepared and presented by Jenna Brooker, Environmental Consultant

Dune positions	Berm	Primary/ frontal dune	Back of primary and whole of secondary dune	Tertiary dune
Category	Cat 1	Cat 2	Cat 3	Cat 4

Collecting notes .

1. **Licensing** – All collectors must have a DEC Scientific Collectors License (\$10 per year) and written permission of the land manager / owner
2. **Provenance** – origin / area of natural occurrence.
3. **Types of seed capsule:** woody fruit (Eucs, Mels, Hakeas) , podded fruit (wattles, peas, grevilleas), hard coated large, soft fine **loose seed, winged seed**
4. **Timing - Watch for seed to be ready to harvest** Note date, tag flowering plants, ready in ~ 2 months. Monitor fruit formation, fruit is mature when it starts to dry:woody fruit must be brown, pod fruit brown or black & ready to split open. NB On first hot day of summer pods will split and seed will fall.
5. **Collect seed** – in buckets, tarps (old shower curtains), bowls, calico bags or large envelopes. Include a leaf or flower specimen for Identificaiton.

On label record date, location, species.
6. **Drying fruit** In paper or calico bag in dry sunny spot. For large quantities lay on tarpaulin, protect from wind, take indoors at night to avoid moisture.
7. **Seed cleaning** –Kitchen sieve, bowls for winnowing, try kitchen blender to remove flesh from seed. NB Nurseries may require pure clean seed .

8. **Viability** – simple check – cut seed with blade – viable seed has a solid white centre.
9. **Seed storage** - use a dryacide (old ones from medicines are handy), and insect proof containers – eg jam jars / or store in paper bags all sealed in a large plastic box. **Label seed:** include species name, date collected, collection site. Keep cool, but do not freeze unless you intend to keep seed for several years as recovery from dormancy may take several months.
10. **Seed treatment to enhance germination** – Hard coated seed (eg peas and wattles) – soften: soak in boiling water overnight. OR scarify with sandpaper. Smoked water may be effective – soak seed before planting. (Make your own smoked water or purchase).
11. **Propagation:** Allow 4 – 6 months growing time, aiming for seedlings to be ready for planting in May June (ie when it rains). Note that many seeds will not germinate in the hottest months so some may have to be planted in nursery before December.

 Plant seed in nursery in trays for later pricking out to tubes or cells. For species difficult to prick out plant direct into cells or tubes.
12. **Direct seeding** –works best in bare weed free sand protected with brushing (but not mulch). Seed does not need to be very clean.

Species notes

Species	Common name	Dune position	Collection	Treatment	Propagation
<i>Acacia cyclops</i>	Red eye wattle	Cat 3 4 5	Can be collected any time as plant holds seed.	Hard coated seed – see Boiling water treatment	Store for a year before planting.
<i>Acacia rostellifera</i>	Summer scented wattle	Cat 3 4 5	Collect brown seed pods as for Templetonia	Seed is hard coated seed – see Boiling water treatment	Wattles grow fast. Plant in Jan / Feb
<i>Acanthocarpus preissii</i>	Prickle lily	Cat 3 – 5	Oct – Feb. 3-5mm diam rough pods contain 1-2	Difficult to remove from pod. Try a rolling pin. Scarify seed	Slow germination – start in October in

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			hard seeds	with sandpaper /boiling water	trays
<i>Atriplex cinerea</i>	Beach salt bush	Cat 1 , 2	Nov – Feb	Soak 24 hrs in fresh water, change water~6 times. Dry in calico bags.	In trays Jan Feb then prick out into cells
<i>Atriplex isatidea</i>	Tall / beach salt bush	Cat 2 / 3	Nov – Feb	See <i>Atriplex cinerea</i>	
<i>Carpobrotus virescens</i>	Pig face (deep pink flowers)	Cat 2 – 5	Nov – Feb	Scoop out fine black seed and flesh. Blend with lots of water, allow to settle. Dry seed on kitchen paper.	More vigorous plants are grown from cuttings. Grow in cells - place 2 -3 seed in each cell.
<i>Melaleuca acerosa</i>		Cat 4 5	Ditto	Ditto	Ditto
<i>Melaleuca cardiophylla</i>		Cat 4 5	Ditto	Ditto	Ditto
<i>Melaleuca huegelii</i>	Graceful honey myrtle	Cat 5	Ditto	Ditto	Ditto
<i>Melaleuca lanceolata</i>	Rottnest Island Ti Tree	Cat 4 5	Any time – collect the oldest fruit with closed capsules (lowest fruit on stem is oldest) Leave in paper bag in warm place to release seed	Seed is very fine like pepper. Do not attempt to separate chaff.	Seed direct in cells as transplanting young seedlings is not easy. Thin out.
<i>Myoporum insulare</i>	Boobialla	Cat 3 – 5	Collect purple seed Oct – Feb	Soak, blend to remove flesh and scarify seed. Dry on kitchen paper	
<i>Nitraria billardieri</i>	Coastal grape	Cat 1/ 2	Watch for sea gulls eating ripe fruit (purple grapes), then collect gull poo (~Feb)	Seed must be softened in gulls' guts! Fruit may also germinate in compost.	Direct seed in 12 cm deep pots
<i>Olearia axillaris</i>	Coastal daisy	Cat 3	May – June. Watch for fine flowers to brown and	Nil . seed is very fine	Slow to germinate – try Oct / Nov in trays

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			dry.		
<i>Ptilotus divaricatus</i>		Cat 3 4 5	Nov – Feb. Collect the fluffy falling flowers.	Store in calico bags. Do not clean.	Spread seed in trays
<i>Rhagodia sp</i>	Red berry salt bush	Cat 2 – 5	Collect ripe red fruit or dried black fruit Oct – Feb	Dry in sun. Rub to remove dust. Or wash red fruit and use blender (see <i>Carpobrotus</i>)	Fast growing – seed trays in February
<i>Scaevola crassifolia</i>	Fan flower	Cat 2 – 5	Summer	Must be grown from cuttings in Perth Geraldton is too hot.	Germination has seldom been successful
<i>Spinifex longifolius</i>	Beach spinifex	Cat 1 (berm) Blowouts	Male and female flowers grow on separate plants. Collect seed heads from a female plant located downwind of a male plant.		Direct plant whole heads into beach sand on berm any time OR plant individual spikelets in separate tubes
<i>Templetonia retusa</i>	Cockies tongues	Cat 4 5	Collect flat black seed pods Sept – Dec. Check for insect predation	Leave in sunny place in paper bag to dry and wait for pods to burst . Boiling water treatment.	Sow seed in trays Dec Jan then prick out. Add lime to soil mix
<i>Threlkeldia diffusa</i>	Bone seed / Mouse pooh	Cat 2 – 5	Summer – Oct – Jan. Spread plastic sheet under fruit bearing bush, then shake bush.	Leave seed to dry in sunny spot. No need to remove flesh	Germinate in trays in January, then prick out

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ⁱ Good references:

Coastal Plants Perth and the South West Region – Elizabeth Rippey and Barbara Rowland
 Seed Collection of Australian Native Plants – Murray Ralph