**Motueka Catchment Collective native plant resilience event**

**18th February 2024** **Helen Lindsay**

**Notes on site analysis and plant selection for native planting projects**

Number one – what are you trying to achieve?

Many reasons for planting natives

- Restoration of a natural ecosystem
- Amenity using natives
- Food for birds
- Carbon sequestration
- Erosion control

These notes refer to restoration of a natural ecosystem

Questions to ask

- What is present?
- What needs to be preserved?
- What needs to be removed/managed?
- How does the surrounding area effect the site? Seed source, weeds
- How to get eco-sourced plants (i.e. seed sources from the same area).
- What maintenance will be required (Consider how active management can be minimized).

**Plant selection and placement for restoring natural ecosystem**

Look at what species grow in natural ecosystems in the area, where do the different species grow, shade or light, wet or dry etc.

Elements of site analysis

- Habitat
- Soil type – fertility, drainage etc.
- Moisture
- Climate, exposure, frost, wind etc
- Elevation
- Topography
- Aspect
- Plants appropriate for the soil type and conditions
- What grows naturally near the site
- Some require mycorrhiza to germinate or thrive
- Be aware of infrastructure – e.g. don't plant tall things under power lines

Habitat and soil type examples

RIbbonwood – grows on lowland fertile soil
Kowhai – not generally on Separation Point granite soils
Swamp coprosma grows in swamps but not naturally on fertile soil - so it likes SPG
Limestone plants – only on limestone not on SPG

Doesn't necessarily mean that they will not grow on other soils if planted – just that as they only grow naturally on certain soils, they may not be natural in the local ecosystem and may not thrive or survive in the long term.

Plant selection information
Tasman District Council website native plant restoration lists
https://www.tasman.govt.nz/my-region/environment/environmental-management/biodiversity/native-plant-restoration-lists/

Upper catchment - Inland Motueka Valleys Ecosystem
Lower catchment - Motueka-Riwaka plains and valleys

Pioneer species and secondary/canopy – recognize that beech is a pioneer

Examples for site at 520 Motueka River West Bank Road
A dry, north facing, exposed site on infertile soil

Early stage - in the open dry, sun, frost

Griselinia littoralis - broadleaf
Phormium tenax - flax
Kunzea ericoides - kanuka
Leptospermum scoparium - manuka
Myrsine australis - mapou
Coprosma lucida
Coprosma robusta
Pittosporum eugenoides - lemonwood
Pittosporum tenuifolium - kohuhu
Fuscospora solandri – black
Fuscospora truncata – hard beech

Later stage – infill dry, shade, frost protection

Dacrydium cupressinum - rimu
Fuscospora fusca - red beech
Hedycarya arborea - pigeonwood
Melycytus ramiflorus - mahoe

Recognise that some of the pioneer species will die out in the long term. If seed source available for bird dispersed seeds they may come in on their own. But beech will not recruit in deep shade.

Example – mahoe establishes well under gorse but not manuka as manuka seed requires light to germinate, gorse does the same job as manuka.

**Other resources**

Plant information:

New Zealand Plant Conservation Network

www.nzpcn.org.nz

Photos and other information. Contains information on the habitat of plants.

Examples of habitat description

- Rimu – lowland to montane forest
- Swamp coprosma – lowland (rarely montane) in swamps and boggy ground, poorly drained shrubland and riparian forest.

Plant identification:

Nelson Botanical Society

www.nelsonbotanicalsociety.org

Opportunities to spend time with expert botanists in the field to learn to identify native plants and the ecosystems they grow in.

Phone App - Aotearoa species classifier
Helps to identify plants by using phone photos

Resources
https://www.dairynz.co.nz/media/to4n0geg/riparian-management-guide-top-of-the-south.pdf

Moutere catchment talk on native planting https://www.youtube.com/watch?v=CttjvAH7EfE