

Kakanui Riparian Planting Guide

from the Kakanui
for the Kakanui

Farmers and residents in the Kakanui, Kauru and Waiareka catchments are seeking advice on how to prepare for, undertake and maintain riparian plantings. The Kakanui Community Catchment Project (KCCP) has compiled this brochure to provide information to guide you to begin the process. Most importantly it also includes advice on some species that are known to establish and grow well in the region.

We also encourage you to do your own research and ask professionals for assistance as every planting situation is different. References can be found on the back page.

For farmers riparian plantings are becoming an important element of on-farm sustainability and are some of the steps needed to ensure increasing environmental requirements are met.

Benefits of riparian plantings

The benefits of well-planned and well-managed riparian planting areas on farm are considerable:

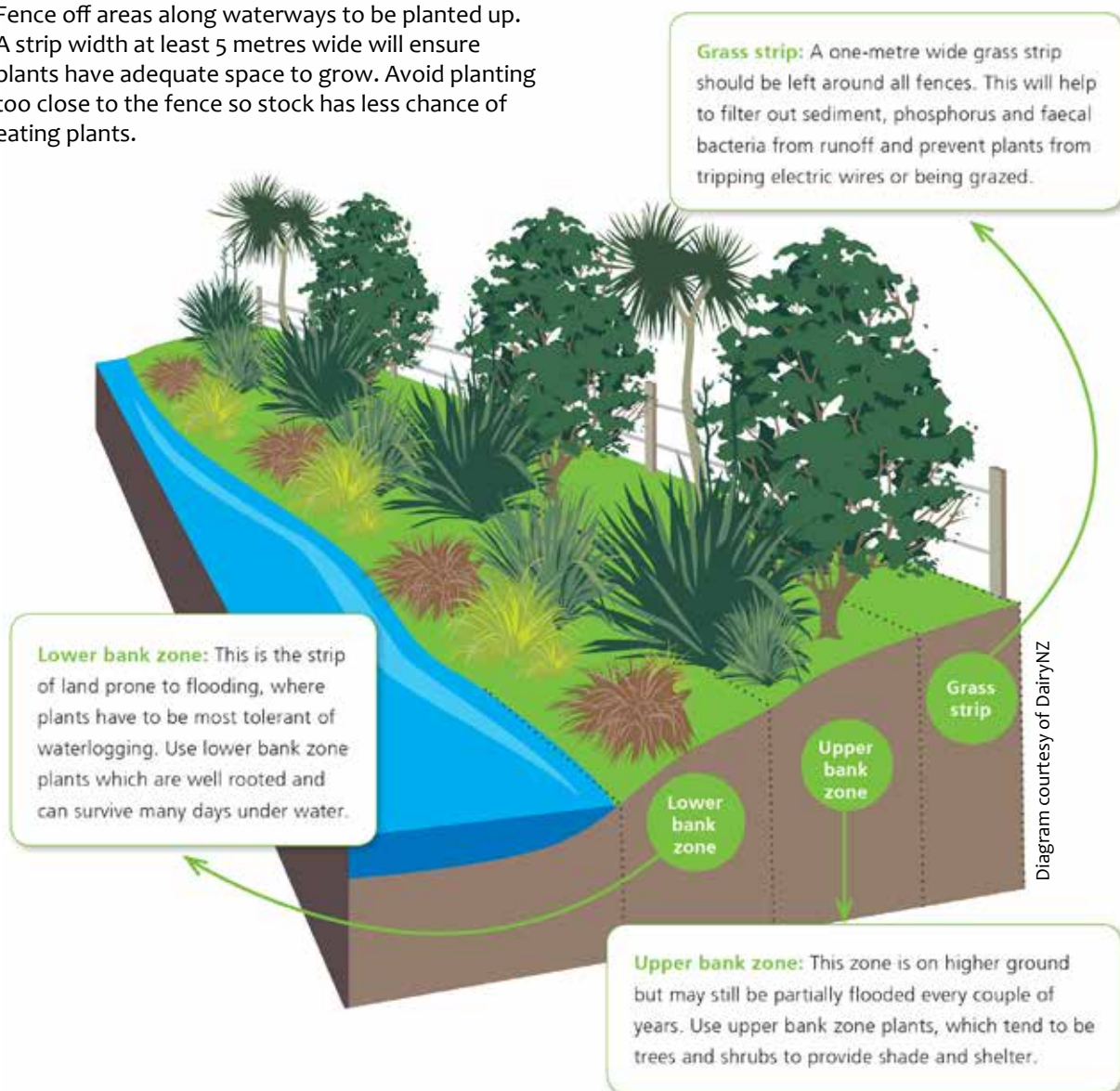
- Increases the quality and health of waterways;
- Increases the ability to filter nutrients before they reach waterways – Nitrogen, Phosphorus and bacteria/ viruses eg. E.coli;
- Reduces sediment run off;
- Reduces erosion of banks in waterways;
- Reduces the waterway temperature;
- Increased bio diversity of farm – aquatic life, native plants, birds and insects;
- Improves recreational opportunities eg. fishing;
- Enhances and beautifies your farm and adds value;
- Ensures regulations and audit requirements of dairy and irrigation companies can be met.



Steps to successful establishment:

Plan well before taking action!

- Identify the areas to plant. Develop a realistic 5 - 10 year plan to progressively plant areas. Taking this first step will record your intention and focus to make things happen. Your initial plan may need to change for a variety of reasons but it will remain a reference document to action.
- Ensure you note how high flood levels reach up the banks of waterways.
- Planting too large an area at once reduces the chance of maintaining it well.
- Develop a budget for yearly planting and maintenance and include that in your annual financial plan. Some years it may be possible to afford more plantings or boost maintenance of establishing plants. The purchase cost of plants can now be treated as operational costs for income tax.
- Order and select plants in advance to ensure supply of the grade size you want. Plants in 1 litre pots are an ideal size – they will cost more initially and should reduce losses and having to replant in future.
- Fence off areas along waterways to be planted up. A strip width at least 5 metres wide will ensure plants have adequate space to grow. Avoid planting too close to the fence so stock has less chance of eating plants.
- A wider strip will be needed to plant trees that ensure the waterway is shaded to reduce weed growth and cool the water. This type of planting suits a north bank and allows the south bank to be planted with low growing species that still filter any run off but enable access.
- If the slope beside the waterway is steeper a wider strip will be necessary than that required in a flat area.
- Remove unwanted weeds and plants like gorse, blackberry, broom, crack willows and other unwanted species.
- Erect a fence type that best suits the stock type you will graze. Your choice also needs to consider the height of the waterway during floods.



Species well suited to planting in the wider Kakanui catchment

| Plant name | Latin name | Type | Tolerates | | | | | | | Benefits | | | | | Size (h x w) |
|--|--------------------------------|-------------------|-----------|------|-----------|-------------|------------|---------------------|----------------|---------------|---------------------|----------------|-------|--------------|--------------|
| | | | Full sun | Wind | Salt wind | Frost hardy | Boggy soil | Dry soil conditions | Attracts birds | Attracts bees | Slope Stabilisation | Filters runoff | Shade | Fish habitat | |
| Lower bank zone (Space 1 – 1.5 m between plants) | | | | | | | | | | | | | | | |
| Cabbage Tree (tī kōuka) | <i>Cordyline australis</i> | Tree | * | * | * | * | * | | * | * | * | * | | 10 x 3 m | |
| Purei | <i>Carex secta</i> | Sedge | * | * | * | * | * | | | | * | * | * | 0.75 x 1 m | |
| Red Tussock grass | <i>Chinochloa rubra</i> | Grass | | * | | * | * | | | | * | * | | 1 x 1 m | |
| Swamp Sedge (pūrei) | <i>Carex virgata</i> | Sedge | | * | * | * | * | | | | * | * | * | 0.75 x 1 m | |
| Toetoe | <i>Cortaderia richardii</i> | Grass | * | * | | * | | | | | * | * | | ? | |
| Upper bank zone (Space 1.5 – 2 m between plants) | | | | | | | | | | | | | | | |
| Mānuka | <i>Leptospermum scoparium</i> | Small tree | * | * | * | * | * | * | | * | * | | * | 4 x 1.5 m | |
| Mingimingi | <i>Coprosma propinqua</i> | Shrub | * | * | * | * | * | * | * | | | | * | 4 x 1.5m | |
| Swamp Flax (harakeke) | <i>Phormium tenax</i> | Other | * | * | * | * | * | | * | * | * | * | | 2 x 2 m | |
| Black Matipo (kōhūhū) | <i>Pittosporum tenuifolium</i> | Small tree/ tree | * | * | | * | | | * | | * | * | | 8 x 3 m | |
| Tree Daisy - fragrant | <i>Olearia paniculata</i> | Shrub | | | | | * | * | | | | | * | 3 x 3 m | |
| Broadleaf | <i>Griselinia littoralis</i> | Tree | * | * | * | * | * | * | * | | | | * | 10 x 3 m | |
| Koromiko | <i>Hebe salicifolia</i> | Shrub | * | * | * | * | | | * | * | * | * | * | 1.8 x 1 m | |
| Lemonwood (tarata) | <i>Pittosporum eugenoides</i> | Tree | * | | | * | * | * | * | | * | * | * | 9 x 4 m | |
| Lowland Ribbonwood (manatu) | <i>Plagianthus regius</i> | Tree | * | | | * | * | | * | * | * | * | * | 3 x 15 m | |
| Mahoe Ramislorus | <i>Melicytus lanceolatus</i> | Shrub | * | * | * | * | * | * | | | | | * | 4 x 1.5 m | |
| Mountain Flax | <i>Phormium cookianum</i> | Grass | * | * | * | * | * | | * | * | * | * | | 2 x 2 m | |
| Narrow Leaved Lacebark | <i>Hohara Augustifolia</i> | Tree | | * | | * | * | * | * | * | * | | | 6 x 3 m | |
| Shining Karamu | <i>Coprosma lucida</i> | Shrub/ small tree | | | | | * | * | * | * | | | | 3 x 6 m | |
| Tree daisy | <i>Oleria hectori</i> | Shrub | * | | * | * | * | * | | | | | * | 4.5 x 4.5 m | |
| Kowhai | <i>Sophora microphylla</i> | Tree | * | * | | * | | | * | | | | | ? | |
| Kanuka | <i>Kunzea ericoides</i> | Tree | * | * | * | * | * | * | | * | * | | * | ? | |

FAST 5 PLANTS FOR OTAGO

1



Cabbage tree

2



Carex secta

3



Mānuka

4



Mingimingi


5



Swamp flax


These five go-to plants are ideal to start your planting with – they are hardy, fast-growing, can be planted straight into pasture and don't require shelter. Ask your nursery for eco-sourced plants as they are grown from local wild seed and are best adapted to your climate and soils.

Effective planting technique




1 Remove any grass or weeds.

- Four to six weeks before planting, spray 1 m diameter circles with a glyphosate-based herbicide at the location where you will plant each plant. Check product information to ensure the herbicide is applied correctly.



2 Put the plant in a hole that is big enough to accommodate plant roots without them being curled up or bent at the bottom or sides of the hole.

- On drier soils, ensure the base of the stem is 1-2 cm below the soil surface. Mulch around plants will help keep soils damp, reduce weeds and provide nutrients. Good mulches include straw, staked down cardboard or wool.
- On permanently wet soils, place the base of the stem (just above where the roots start) about 2 cm above the soil surface with soil mounded up to the root ball.



3 Put a stake or plant protector beside your plants so you can find them easily when you are weeding and can see if they have died or need replacing (don't attach the plant to the stake).

- Remove weeds or grass. 4-6 weeks before planting spray out 1 metre diameter circles at each planting position.
- Spring planting is best. Ensure plants are hardened ie. no soft new growth.
- The spacing between plants is ideally 1.5 metres.
- The planting hole needs to be deeper than the plant's root system. Loosening the soil below the plant will allow the root system to spread out and establish more quickly. If roots are tangled cut off 1 cm and slit the sides in three places to encourage new roots.
- Ensure plant protectors are used and a 30-40 cm biodegradable, weed suppressant mulch like old carpet, cardboard or straw placed around the base. The protectors are effective against rabbits and hares and reduce the effect of cold winds.

References:

Otago Regional Council – Environmental Considerations for Clean Streams
www.orc.govt.nz/Publications-and-Reports/Farming-and-Land-Management/Riparian-management/Environmental-Considerations-for-Clean-Streams-a-guide-to-managing-waterways-in-Otago-2005/

Dairy NZ – Getting riparian planting right in Otago
www.dairynz.co.nz/publications/environment/getting-riparian-planting-right-in-otago/

Waitaki Irrigators Collective – Tree planting guide
www.waitakiirrigators.co.nz/wp-content/uploads/2015/02/Trees-guidelines-in-Publisher.pdf

Local Nurseries:

Matai Nurseries 03 689 8928 lester@nznatives.co.nz
 Rakaunui Nurseries 027 221 1076 mail@rakaunui.co.nz
 Oregon Nurseries 03 431 3627 onl@oregonnurseries.co.nz
 Blueskin Nurseries 03 4822 828 sally@blueskinnurseries.co.nz

Diagram courtesy of DairyNZ

Maintenance - Vital for plant establishment!

- For 5 years after planting regular maintenance is vital. Careful spraying around the plant, at a later stage is also easier and effective during maintenance. Always take care to protect the plant before spraying and ensure you select the correct sprays and follow instructions.
- Hand weeding is another option as is weed eating (string trimming) until the plants are established.

The KCCP is very grateful that DairyNZ has allowed the use of excerpts from their document.

We would also like to thank Clover Technology Group for their financial contribution to the production of this guide. Clover is the global leader in recycling and remanufacture of imaging supplies. The complete line of Clover's quality toner and ink is available through leading office product resellers and marketed under a variety of private label brands.

