



Aquatic weeds

Use riparian planting for weed control

Handouts

1. CAREX Key Steps
2. Aquatic weeds
3. Sediments
4. Nutrients
5. Biodiversity (coming soon)
6. *E. coli* (coming soon)

Nuisance aquatic weeds fill waterways, impede drainage, and increase sediment deposition. In agricultural waterways, weeds are commonly managed using mechanical clearance, which can create oversteepened banks, release sediment, damage in-stream habitat, and require on-going maintenance.

Riparian planting is an alternative tool that can effectively control aquatic weeds, such as watercress and monkey musk, alongside benefits for improving water quality.

How does riparian planting work? Plants provide shade and compete with weeds that grow from the bank (e.g., monkey musk) for space to reduce excessive aquatic weed growth. Shade works best for leafy, emergent weeds and when it extends across a waterway. After a few years of growth and maintenance, plantings can provide self-sustainable weed control.

Plant in the right place - Shade can be achieved by planting appropriate species, such as native *Carex* sedges at the waters' edge on both banks and taller-growing shrubs and trees on the upper bank, preferably the north.

Support plantings with short-term solutions - Weed mat or release spray can be used to boost the early growth of new riparian plants by reducing competition from weedy riparian plants. Regular plant maintenance in the first three years is key to success.

Weed mat is a tool that can be used in the short-term (1-2 years) to help control the growth of aquatic weeds that grow from the bank while riparian plants establish. Weed mat works by limiting light and suppressing weed growth.



Step by step - Riparian planting to control aquatic weeds

A combination of tools might be needed to get your waterway ready to plant to grow shade for weed control.



1. Know your waterway & plan

Think about where and what species to plant. Consider local conditions (e.g. salt spray) and on-farm operations (e.g. digger access, pivot irrigators) when selecting appropriate species. Is the bank ready to plant? Consider costs for both initial and maintenance activities. *Funding may be available to help support your project.



2. Site preparation

A few jobs might need to be done to prepare the banks for planting. This could include hedge removal, rebattering, chemical spray to kill existing grass and weeds (best done 4-6 weeks prior to planting), or increasing fence setback.



3. Planting

Plant in the right place to maximise shade benefits (i.e., 1-2 rows of Carex at waters' edge or taller-growing shrubs or trees on upper banks). To maintain drain access, plant taller species on one-side of the waterway, preferably the north to maximise shade benefits as trees grow, especially in summer.



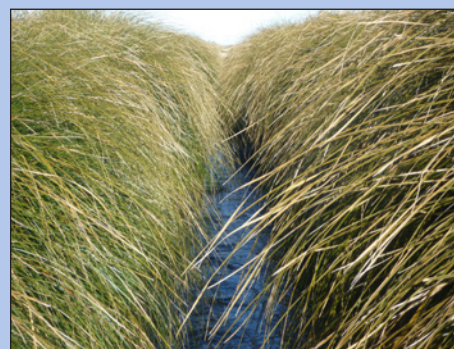
4. Apply a short-term tool

After planting, weed mat installation (coir mat, as shown in photo above) or regular release spraying of competing weeds on banks will help boost growth of new plants. **TIP** Extend weed mat down the bank and into the water, as weeds will take advantage of light in gaps.



5. Monitoring & maintenance

Monitor plant growth success and weeds regularly. Maintenance activities could include: weed mat replacement (annually for coir mat, less frequently for woven plastic), release spraying (2-3xs per year for first 3 years) or replacement planting to fill in gaps where plants that did not survive (as required).



6. Weed control

Within 2 - 3 years, Carex planted on the waters' edge can control emergent aquatic weeds by providing shade over the waterway.

What to ask plant nurseries, planting contractors, or earthworks contractors:

Advice on plants for local conditions, growth form/height
Experience in other waterway or restoration projects

Where to get help or more information:

DairyNZ Planting Guide - Getting it right in Canterbury waterways and Riparian planner
Environment Canterbury -local Biodiversity officers or Land management advisors

*Funding sources: Environment Canterbury Immediate Steps, Selwyn District Council Natural Environment fund, Te Ara Kāhāriki Greenway Trust

For more details and steps to get you started, please check out our other handouts.