



Rebattering

Stop sediments at the source & stabilise the banks

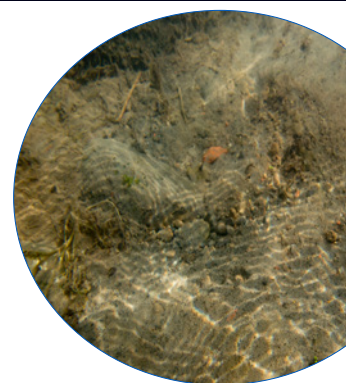
Handouts

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Steep, highly eroding or slumping banks are important sources of sediments to waterways, particularly when combined with high flow events that mobilise sediments. Excessive fine sediment can cover and clog waterway beds, reduce habitat for aquatic organisms and enable the growth of aquatic weeds.

Bank rebattering is a tool to reduce sediments entering the waterway by removing sources along the bank, such as oversteepened or eroding banks.

How does rebattering work? Bank rebattering involves earthworks to reduce the slope and stabilise the bank. This stops bank collapse, reduces erosion, and also increases the flood capacity of the waterway.



TIP After rebattering, the banks should be planted with plants or ground cover or seeded with grass to maximise ground cover and minimise bare ground.

When to rebatter? Bank rebattering is a key step in rehabilitating waterways and should be done prior to planting, where needed. Planting or seeding the banks with grass after rebattering will slow surface runoff and trap sediments that flow overland from paddocks.

Rebattering can enhance ecological benefits of riparian planting as appropriate plants such as *Carex* sedges can be planted right on the edge of the waterway, instead of at the top of an oversteeped bank. As the plants establish and grow, they provide shade that extends across the waterway and can reduce the growth of nuisance aquatic weeds.

Step by Step - Stop sediments at source & stabilise the banks

Bank re battering to remove sources of sediment from the banks into waterway



1. Know your waterway - Identify problem bank areas where sediments are entering the waterway (e.g., oversteepened banks, under hedges, collapsing banks).

2. Design & plan - Think about bank setback width and what is practical given on-farm requirements. Talk to contractors about earthworks* and local council about resource consent (may be required).

3. Site preparation - To get banks ready for re battering, you may need to remove hedges, cut down trees, or temporarily remove fences from the banks.



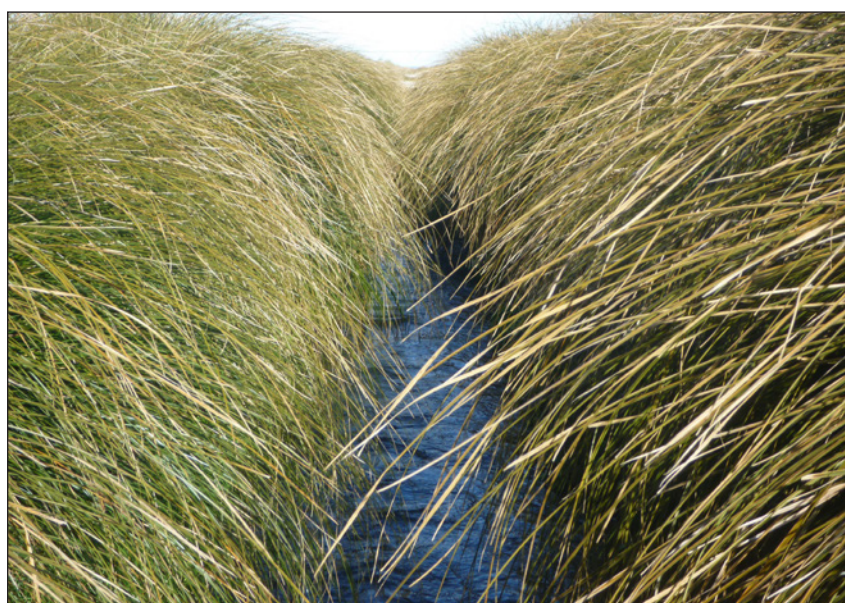
4. Re batter - A digger is used for earthworks to pull back soil and reduce bank slopes (ideal slope 1:1). Excess soils can be used on farm or removed by truck.

5. Plant or add groundcover - Banks should be planted or seeded with grass to minimise bare ground (>50% plant cover is ideal)**.

6. Monitor & maintain - Monitor banks and maintain groundcover with plants or grass to minimise sediment runoff into waterway.

* Hire an experienced digger driver. Ask if they have any experience working along waterways or with restoration projects.

** In some cases, weed mat could be put down to control weeds and reduce erosion while new plants grow.



Re battering was done prior to planting *Carex* sedges and native shrubs along this waterway (photo, left) in a project funded by Environment Canterbury's Immediate Steps programme. After 2-3 years of growth and routine maintenance of the riparian plantings, *Carex* planted on the edge of this waterway were well-established and controlling leafy, emergent aquatic weeds, including monkey musk. Mechanical clearance of the weeds to maintain the drains has not been required.

For more information about getting riparian planting in the right place to help with weeds, see our Aquatic Weeds handout.

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