

Spraying



1. Notify local rūnanga at least 10 days before spraying.
2. Check that the spray has been approved under the Hazardous Substances and New Organisms Act 1996.
3. Ensure that any additives are not ecotoxic.
4. Avoid spraying watercourses identified as:
 - » Inanga spawning sites, between 1 January and 1 June
 - » Trout spawning sites, between May and September.
5. Avoid spraying watercourses where elvers (young tuna/eel) are present between November and April.
6. Do not discharge spray directly to the water in a Community Drinking-water Protection Zone, or into a river or artificial watercourse within 250 metres upstream or 100 metres downstream, or a lake within 250 metres of any other surface water intake.
7. If you must spray a drain, try to spray when the drain is dry.
8. Consult the Material Safety Data Sheet for the appropriate herbicide. Follow the correct application rates and methods specified.
9. Do not mix or dilute the spray or rinse or clean containers or equipment within 5 metres of a surface waterbody or bore, or in the bed of a river or lake.
10. If you are taking water for mixing or dilution from a surface waterbody or groundwater, a backflow prevention system must be in place.
11. You can also undertake measures such as planting and fencing to prevent high sediment loads and macrophyte growth.



Watch out for Inanga sites

Inanga spawn in all waterways, including farm drains.

Do you need our permission before starting work?

If your drain or small watercourse is managed by Environment Canterbury, you need our written permission before planting or fencing within 7.5 metres of the top of the bank. This is a free process and we can usually approve within 5 working days. Fill out our Flood Protection and Drainage Bylaw authority form at www.ecan.govt.nz or contact Customer Services on 0800 324 636.

Get advice

If you are unsure about how these guidelines apply to your situation or you need on-farm advice, please call Environment Canterbury Customer Services on 0800 324 636.



Facilitating sustainable
development in the
Canterbury region
www.ecan.govt.nz

E18/6806

Good Drain Management Practices

October 2018

Good Drain Management Practices

TOP TIPS

Natural and modified watercourses, including drains, support diverse and valuable ecosystems and mahinga kai.

Drains make up over 10% of watercourses in New Zealand and support over 20 native fish species, including several that are threatened.

Watercourses can support excessive growth of aquatic plants (macrophytes) that grow in the beds. This may be caused by the presence of sediment, nutrient availability, and a lot of light. Excessive macrophyte growth and sediment can have a negative impact on in-stream communities, drainage functions and mahinga kai.

Removing excess macrophytes and sediment from watercourses may be necessary. However, this must be done in an ecologically sensitive way.

Follow the recommendations inside to minimise environmental impacts.

Physical clearance



1. Do not clear watercourses identified as:
 - » Salmon spawning sites
 - » Inanga spawning sites, from 1 January to 1 June
 - » Trout spawning sites, from May to September.
2. Avoid clearing watercourses between November and April where elvers (young tuna/eel) are present.
3. Maintain ecological refuges by not cleaning all watercourses in a catchment or property at once.
4. Preserve important habitats such as riffles.
5. Avoid mechanical removal if possible. This can crush fish or remove them from the water.
6. For short lengths of watercourse, hand cutting with a scythe or similar tool may be practical.
7. Use a weed bucket or weed rake to increase the number of fish returned to the water and reduce the amount of gravels removed. Use a conventional bucket rather than a weed rake where the stream has a heavy layer of fine sediment.
8. Do not drag buckets up banks. This damages riparian habitat, and can steepen banks. Steep banks increase sediment discharge and erosion.
9. Maintain a strip of macrophytes along the edge of the watercourse and occasional patches in the channel to provide refuge and habitat for fish.
10. Do not remove coarse gravel and cobble substrates.
11. Do not alter the bank and bed profile of the watercourse during mechanical clearance works.
12. Maintain variability in stream bed depth and contours - do not flatten the bed.
13. Do not deepen the bed below the confining layer to protect groundwater quality.

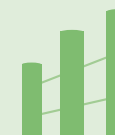
14. Inspect removed plant matter and silts, and return any fish, crayfish or mussels to the water.
15. Recover distressed fish from the disturbed watercourse and relocate them upstream.
16. Do not return recovered fish to highly turbid or de-oxygenated water.
17. Place excavated material far enough away from the watercourse so it will not re-enter the water, but close enough so species like tuna/eel can work their way back out into the water. Avoid placing the material on spawning or mahinga kai habitats.
18. In heavily-silted watercourses, prevent suspended sediment moving downstream during works by using artificial or natural filters, such as sedi-mats or straw bales.
19. Limit the area within the riparian margin that is cleared of vegetation.

Planting



1. Plant the banks of the watercourse to shade out macrophytes. If you are only planting one bank, do so on the northern side of the watercourse to provide maximum shading. This can reduce frequency of plant removal.
2. Do not plant species listed in the Biosecurity NZ Register of Unwanted Organisms or the Canterbury Regional Pest Management Plan.
3. An effective riparian buffer – a strip of vegetation beside the watercourse - can reduce sedimentation of the bed by intercepting sediment.

Fencing



1. Fence watercourses to prevent stock access to the bed and banks. Stock can cause damage to banks, which leads to high sediment loads.

V shaped drain

encourages faster water flow reducing sediment build up and weed growth

45°

