



Weed and sediment removal for drainage maintenance

Information for contractors

Activities that require consent:

- **Weed and sediment removal from a lake or natural watercourse that has not had previous drainage maintenance work carried out at that location** requires resource consent.
- **Diversion of water** from any **naturally occurring wetland** requires resource consent.
- **Channel deepening and/or rebattering** (reshaping) of the banks to increase channel capacity requires resource consent.

Introduction

The removal of aquatic weeds, plants and sediment from Southland's network of modified and artificial watercourses to maintain drainage outfall is a permitted activity. However, if not executed correctly, drainage maintenance can harm aquatic ecosystems, habitats and areas of significant vegetation and reduce water quality.

To prevent this from happening, it is crucial that the activity is undertaken solely to maintain or restore the drainage capacity of a modified or artificial watercourse. Bed disturbance must be kept to the minimum necessary to undertake the activity. Return stranded fish and eels to the water immediately. Trout spawning and whitebait habitats must also be undisturbed.

Environment Southland encourages the uptake of the best management practices discussed on the reverse side. Please contact the Catchment Division of Environment Southland for free advice and further information on (03) 2115 115 or 0800 76 88 45.

Rules

Weed and sediment removal from any modified watercourse for drainage maintenance purposes is permitted provided certain conditions are met. These conditions include:

- the activity is undertaken solely to **maintain or restore drainage capacity**;
- the watercourse has had **previous drainage maintenance work** carried out at that location;
- the activity is restricted to the **removal of aquatic weeds, plants and/or sediment**;
- incidental **bed disturbance and gravel removal** is kept to the **minimum**;
- **fish passage is not impeded** upon completion of the activity;
- all reasonable steps are taken to **return any captured/stranded fish** to water immediately;
- from 1st June to 31st October, there is no disturbance of the **spawning habitat of trout**;
- from 1st November to 31st May, there is no disturbance of banks within the **tidal river habitat** that floods at spring tide;
- **no fuel storage** or machinery refuelling occurs on any area of the bed;
- **no contaminants**, other than sediment released from the bed, are discharged to water;
- there are no known **archaeological sites or wahi tapu** in the bed of the watercourse at the site of the activity. Upon discovery of such a site, the activity must cease immediately and Environment Southland must be notified;
- before any equipment is moved to a new activity site it is effectively cleaned to prevent the spread of **pest plants and animals**;
- all **equipment and debris** associated with the activity are removed from the bed of the watercourse on completion of the activity (except for sediment used to repair banks);
- where the watercourse is **spring-fed**, removal of aquatic weeds and plants is kept to the **minimum**.

Activities, such as weed and sediment removal, in the beds of artificial watercourses are not controlled under the Resource Management Act and can be undertaken as of right. However, it is important to note that many farm drains are in fact modified natural watercourses rather than artificial watercourses, so the above rule will apply.



Key terms and information:

Modified watercourse

A water carrying channel that was existing in some form prior to land development but has been modified or straightened for drainage or other purposes.

Bed

The space of land covered by the waters of a watercourse at its fullest flow without overtopping its banks.

Trout Spawning

Trout spawning occurs in riffles (gravel ridges in the stream bed). The trout make redds, which are like a nest of gravel. Redds are characterised by a depression in the gravel and a mound of generally algae free stones immediately downstream, often under overhanging vegetation at the side of a stream. Trout spawning can occur from May to November.

Inanga (whitebait)

Inanga spawn in tidal lowland areas during the spring tide, with eggs hatching on the next spring tide. Their preferred habitat is grassy-like vegetation on stream banks.

Best Management Practices

- Schedule drainage maintenance activities at specific times of the year to prevent disturbance to whitebait and trout spawning; and avoid the need for resource consent.
- Cleanings should be put behind the machine. This prevents sediment getting back into the stream but will allow stranded eels and crayfish to move back to the water.
- Use a weed rake or ditch-cleaning bucket with drainage holes for drain maintenance. These allow water to escape, reducing the load and helping to prevent fish from being stranded.
- Consider installing a GPS Trac Map unit to record drainage works, tile drains, infrastructure and trout spawning redds.
- Leaving small patches of weed in the waterway is acceptable. It gives fish a place to shelter and reduces the likelihood of excavating below the bed level.
- The invert of any culvert must be placed 300mm or 1/3 the diameter of the culvert, whichever is the lesser, below the natural bed level. Ensure that drainage maintenance activities do not leave culverts “high and dry,” as this will prevent fish passage.



Figure 1 – The highlighted section indicates a trout redd. Note the clear stones forming a depression and a mound immediately downstream. It is an offence under the Conservation Act 1987 to disturb or damage the spawning ground eggs or larvae of any freshwater fish (Image: Fish and Game).



Further information

Please contact the Catchment Division of Environment Southland on (03) 2115 115 or 0800 76 88 45 for free advice and further information on drainage maintenance.