



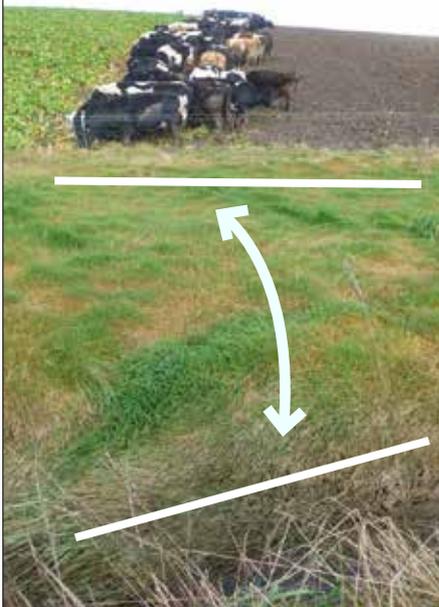
## *The rules: what you need to know*

**There are two sediment rules to become familiar with.**

The *first* relates to the **actions** you must put in place when disturbing land.

The *second* requires you to **assess** the impact sediment runoff is having on the waterway.

These two rules work together to reduce sediment impacts to waterways.



**Good practice:**  
A buffer of long grass protects streams from runoff and meets the sediment control rule.

## *The Otago water quality rules*



# Sediment in water

**The Otago Water Plan has new rules for sediment control around waterways. These rules apply 24/7 and are enforceable now.**

## 1. Land disturbance sediment

Take action - Rule 12.C.0.3 Otago Water Plan

**When disturbing land you must put in place some measures to control sediment runoff into waterways. Having no effective sediment control measures is a prohibited activity.**

### WHAT WORK IS LIKELY TO CAUSE SEDIMENT RUNOFF TO WATERWAYS?

Cultivating a paddock, strip grazing, harvesting trees or undertaking earthworks are all examples of land disturbance that can produce sediment.

### DO I NEED TO CONTROL SEDIMENT RUNOFF INTO WATERWAYS?

Yes. Before you undertake any activity that disturbs land, assess whether runoff can enter lakes, rivers, or Regionally Significant Wetlands (RSW).

If there is any chance of this occurring you must put control measures in place to stop sediment runoff that could reach the waterway.

### WHAT IS A SEDIMENT CONTROL MEASURE?

It is an action you have taken to prevent or minimise the runoff of sediment. Buffers of rank grass or other low vegetation slow sediment runoff and are good options. Sediment traps (such as a pit in the ground or cut offs into paddocks) to capture runoff are also good. You can choose which measure to use.



Grazing stock on bare soil causing pugging and sedimentation without any sediment control in place breaches the land disturbance rule.



Here is an example of a fenced grassy buffer which would ensure that any sediment runoff from the grazed crop is filtered before entering the river.

### WILL CONTROL MEASURES STOP ALL SEDIMENT RUNOFF?

It is practically impossible to stop all sediment runoff, but the key is to have effective measures in place to reduce sediment runoff as much as possible.

Minor diffuse sedimentation entering waterways (e.g. in heavy rain events) is permitted, however, localised sediment increases or plumes clearly discolouring the water will breach the sediment runoff rule. You need to assess this and if it is likely you may need a consent (see rule 2 below).

### WHEN DO I NEED TO PUT A SEDIMENT CONTROL MEASURE IN PLACE?

When disturbing land you must choose and put in place effective option(s) to control sediment movement to waterways. If you do not have sediment control measure(s) in place and sediment enters water, your discharge resulting from land disturbance is a prohibited activity, meaning you cannot proceed with it.

## 2. Sediment runoff

### Make an assessment - Rule 12.C.1.1 Otago Water Plan

**Sediment can enter a waterway as a permitted activity so long as the following conditions are met. Sediment runoff from land or any drain (open or tile) leading into waterways, including irrigation races and coastal water, must not result in:**

- a conspicuous change in colour or visual clarity, *or a plume*
- a noticeable increase in local sedimentation.

*If you cannot meet these permitted activity conditions, you will need to apply for a resource consent to discharge sediment into waterways.*

This rule also applies to sediment entering irrigation races and leaving irrigation races and entering waterways (rivers, streams, creeks, lakes, and wetlands).

Any land disturbance near a waterway is likely to cause sediment plumes in water, so any mitigation measures put in place to meet the land disturbance rule (cover page) will also help you meet this sediment runoff rule.

When cleaning out drains and irrigation races, check that sediment is not flowing into streams, rivers, lakes or wetlands downstream and causing long brown plumes or sedimentation.

Avoid this by cleaning out at times when there is no water in the drain or race, or put in place hay bales to trap sediment before it enters the waterway.

## Sedimented stream

## Clear stream

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### What constitutes a noticeable increase in local sedimentation?

This refers to the amount of sediment on the waterway bed compared to a similar site.

For example, if you look at the bed upstream of a discharge, and it is cobbled and free of sediment, while downstream of the discharge, the cobbles look clogged, and filled with sediment, a noticeable increase has occurred.



If there is a noticeable increase in sedimentation you will fail to meet the new sediment runoff condition. The photo on the left shows a site where sediment runoff from land activity has caused noticeable local bed sedimentation. On the right, an upstream section of the same stream has no noticeable sedimentation.



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### How can I tell if a conspicuous change has occurred?

Check your stream for sediment runoff. If there is a noticeable difference in water colour, a conspicuous change has occurred.

For example, you may see a brown plume in otherwise clear water or a much darker brown plume in lighter brown water.

Both these photos show noticeable and unacceptable sediment in the river. In the photo on the left sediment is discolouring clear water. On the right, poor water is being further contaminated. Both show a conspicuous change water colour, therefore, they fail to comply with the sediment runoff rule.

## Need more information?

The detailed rules can be found in the *Regional Plan: Water for Otago*. Follow this symbol on our website.



Check out these other guide sheets:

5. Stock access to waterways
6. Bridges and culverts
7. Working in waterways
8. What is a river?

For further information see our website.

You can email us on:  
waterqualityrules@orc.govt.nz

Phone us on

**0800 474 082**

The information in this pamphlet is intended to provide guidance only and is not a substitute for obtaining professional advice.

Refer to the Otago Regional Plan: Water for Otago for full details of the water quality rules.



## Good practice



Wide riparian buffers reduce the risk of sediment runoff.



When paddocks have swales, graze stock in the lower, damper areas last. This protects the stream further down the hill and can reduce sediment runoff by several tonnes.

## Why is sediment a problem?

### Sediment can disrupt ecosystems and kill freshwater life.

It is natural for there to be some sediment in a waterway. However, if levels get too high, it can damage ecosystems by blocking light that allows algae (an important food source) to grow, harming fish gills, filling up important habitats, and stopping fish from seeing well enough to move around or feed.

Sediment can build up fast, but recovery from sedimentation in rivers and estuaries can take a very long time. The best option is to stop sediment getting into the water in the first place.

### A long-term reduction in sedimentation can:

- reduce the need for expensive clearing of blocked culverts and drains;
- reduce the need to apply for resource consent to clean out a river;
- reduce the frequency of replacing pumps and filters;
- improve domestic and stock water quality; and
- maximise the potential for freshwater species to thrive.