



The rules: what you need to know

Water Plan Rule 13.5.1.8A

Stock can only have access to streams, rivers, lakes and Regionally Significant Wetlands (waterways) as long as they don't damage the banks and bed of the waterway or degrade the quality of the water.

Stock must not:

- Cause slumping, pugging or erosion
- Create a visual change in the colour or clarity of the water
- Damage plants and animals in a Regionally Significant Wetland

You must not:

- Feed out to stock on the bed of the waterway or wetland.

If you are unable to meet these conditions you will need to exclude stock from the waterway or apply for a resource consent.



A healthy stream

The Otago water quality rules

Stock access to waterways



Stock must be excluded from streams and rivers, lakes or Regionally Significant Wetlands (waterways) , if they are causing any damage to them.

This rule applies to all stock including dairy, sheep and beef, deer, pigs.

The key thing is to assess your waterways and check for damage.

Where damage is not occurring, stock access to waterways is permitted. This is most likely to be applicable in extensive stock grazing situations in Otago's hill and high country, or where steep gullies limit access. Beef cattle or deer can still have a significant impact, even at low stocking rates, so it pays to check for damage.

If damage is occurring you will need to exclude stock immediately. Be proactive, and avoid this situation by excluding stock from waterways where damage is likely to occur. It is not just large rivers and streams, also watch for damage on your smaller creeks and tributaries.



These sheep have caused pugging and erosion and have created an obvious change to the colour and clarity of this stream. This is a breach of the permitted activity rules and is not allowed without consent.

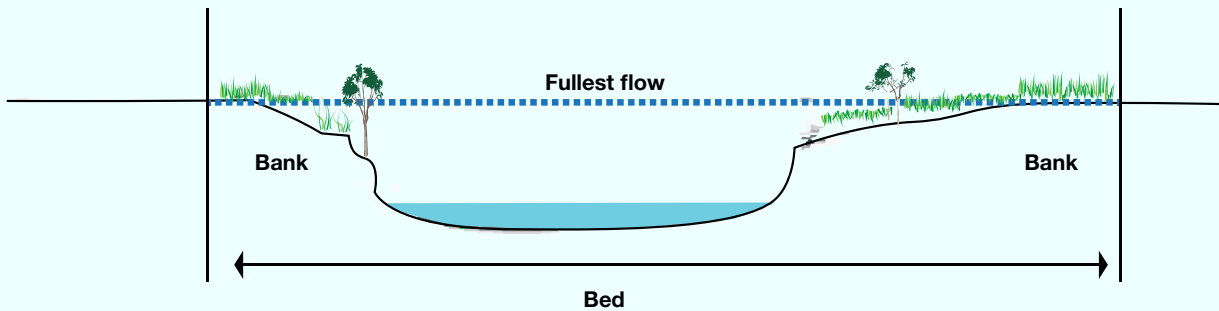
WHERE DOES THIS RULE APPLY?

It applies to beds of waterways, which includes the banks of the waterway and land that is covered by water when the river is at its fullest flow without overtopping its banks. This includes the land onto which ordinary floodwaters flow, but excludes land onto which the waters of a very large flood may spread (as opposed to maintaining a continued flow).

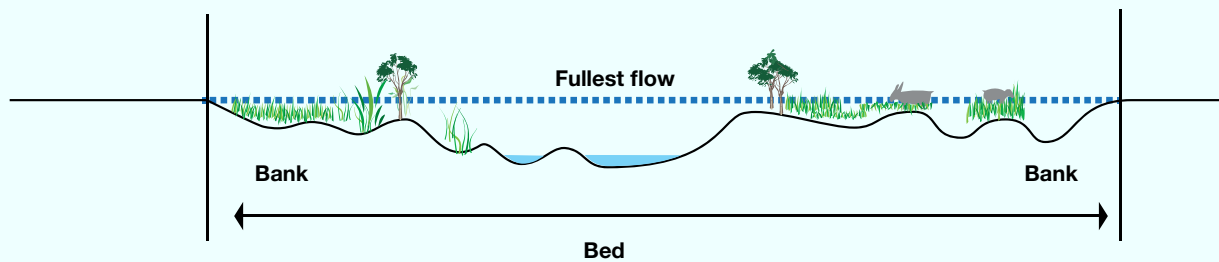
The below figures illustrate where the bed is located in some common river examples.

Note: these figures will not apply to every situation

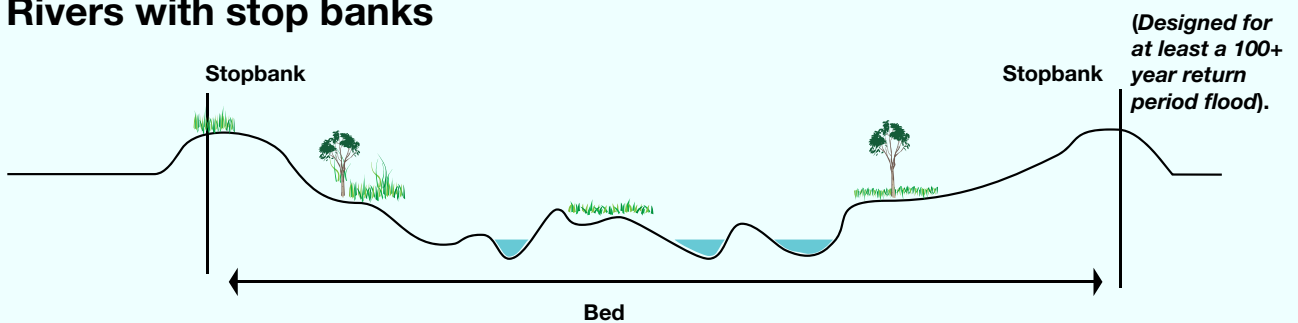
Single channel with clearly defined river banks



Rivers with no stop banks



Rivers with stop banks



DOES THE STOCK ACCESS RULE APPLY TO DRAINS OR WATER RACES?

Not usually. *Drains and water races are not considered rivers, therefore stock can access them.

However, you want to ensure stock do not damage drains and cause sediment discharge into downstream water. Any sediment leaving open or tile drains and entering waterways, coastal water or irrigation races must not result in a conspicuous change in colour or clarity or a noticeable increase in local sedimentation. **This rule applies now.**

From 2020, landholders must ensure that nutrients and *E.coli* leaving the drains on their properties meet the Water Plan Schedule 16 contaminant thresholds. It will help your property meet these discharge thresholds if you protect the drains on your property from stock damage.

*Some waterways that you may consider to be drains can still legally be classed as a river. If you are unsure, check the ORC guide - *What is a River?*, to help you decide.



Deer had unrestricted access to this waterway causing damage to the bed and banks. This is a breach of permitted activity conditions.



A healthy fenced stream with no slumping, pugging or erosion. Fencing and riparian planting can greatly reduce sediment and nutrient inputs (reductions can be between 78-98%)

At right: this is a major breach of the stock access permitted activity conditions and the sediment rules.



What is pugging?

When stock trample wet soil, the soil is compacted causing a breakdown of soil structure.

This degrades the soil, reducing its capacity to grow good pasture and increases the risk of soil loss to waterways.

Pugging is generally caused by high stocking rates on wet bare areas. It can also be caused by a few stock intensively trampling a small area.

Pugging near waterways can result in banks collapsing and stream beds eroding. This produces large amounts of sediment which can enter the water.

Stock access to waterways causing pugging is a breach of the permitted activity rules.

ARE THERE ANY OTHER RULES THAT RELATE TO PUGGING?

Yes, pugging near a waterway can cause sediment runoff. This may also breach the sediment rules.

Pugging can also worsen the nutrient runoff from paddocks - increasing the risk of breaching the contaminant discharge limits (schedule 16).

See the ORC Guide to Water Quality Rules for more information on meeting schedule 16.

WHY IS PUGGING, SLUMPING OR EROSION A PROBLEM IN WATERWAYS?

Pugging near waterways often exposes soil and causes the banks to collapse. Waterway disturbance can produce large amounts of sediment increasing the risk of runoff to waterways.

Sediment (which includes nutrients, pathogens and bacteria) can drain from paddocks and enter waterways if there is no adequate buffer to stop it.

Sediment can smother in-stream invertebrate habitat, reducing the available sites for trout, salmon, and a number of native fish to spawn.

The smothering of invertebrate habitat also has the effect of reducing food availability for fish. Rivers that are excessively turbid (muddy looking) reduce the feeding potential for all fish species -the murky water reducing their ability to see their prey.

Stock, especially cattle, will often excrete while standing in water, leading to nutrient and pathogen issues downstream.

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



The deer are starting to cause pugging and sedimentation, they need to be fenced out of this waterway, or removed from the paddock.



The stock access permitted activity conditions are met in this area where sheep have not caused any damage to the stream-bank. But keep an eye out for any change to the conditions and remove the stock or fence-off immediately if damage starts to occur.

To ensure that you are meeting the rule, regularly check your waterways for damage and remove stock if they are causing any damage.



These cows have caused significant pugging, slumping and erosion. Even if you are only wintering dairy cows on your farm, make sure your fencing is adequate and they do not cause damage to waterways.

When do I need to be especially careful about stock access?

Some situations will have a high risk of the stock access rule being breached including:

- Cattle or dairy stock having unrestricted, year-round access to waterways.
- Wintering any stock on green feed crops where waterways are unfenced.
- Supplementary feeding on paddocks with high stocking rates and unfenced waterways.
- Intensive deer farming where deer have easy access to the river and lakes are likely to cause bank disturbance and develop in-stream wallows.
- Intensive pig farming where there is unrestricted access to waterways.

Consider fencing or otherwise excluding stock from waterways to reduce these risks.



These cattle have caused a visual change in colour and clarity (and caused considerable pugging) in this waterway. This breaches the permitted stock access rules.

What if my stock cause a visual change in water colour or clarity?

Stock roaming or grazing on the banks or the beds of waterways can cause pugging and release sediment or animal waste into the water. You will have breached the rules by allowing stock access to the waterway if this causes a visible change in water colour or clarity (such as a sediment plume or cloudiness).



Driving calves through the stony bottom reaches of the upper Pomahaka River. Although driving stock through waterways is not encouraged, in some cases, such as this, the permitted activity conditions are met. Photo courtesy of Otago Daily Times.

Can I drive my stock through waterways?

Water Plan rule 13.5.1.8B

The rules anticipate that in most places stock will not be driven through waterways. However, you can drive stock through a lake, river or Regionally Significant Wetland provided there is:

- no existing structure to use,
- no visual change in colour or clarity of the water after they have crossed, and
- no resulting slumping, pugging, or erosion.

This rule is designed to allow activities such as high country musters, and crossing large stony bottom rivers, except where there is an existing crossing.

Even in low intensity hill or high country situations, it is recommended that you carefully manage and seek alternatives to driving stock through waterways in the following situations:

- where there is high frequency of use due to proximity to yards.
- where there is high stocking rates on intensive flats.
- where there is loose and unstable soil at or near the crossing site.
- when there are steep approaches to a crossing causing runoff.
- when there are long approaches to a crossing causing sediment runoff to waterways during rain events.
- where the above permitted activity rule conditions are not met.

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.

- 2. Sediment in Water**
- 6. Culverts and Bridges**
- 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



Stock are excluded from this stream-bank by a simple fence. As a result there is no pugging, slumping or erosion and no change in colour or clarity of the river.



Extensive grazing in high country areas will often meet the permitted conditions without the need for fencing of all waterways. Photo: Otago Daily Times



Good Practice

Preventing stock access to waterways is good farm management

FENCING

Often the best way to ensure you are meeting the stock access rule is to fence the waterway to exclude stock completely.

Fencing waterways can provide many positive benefits for your farm operation such as preventing loss of stock, increasing the value of your land, retaining your soil resource, providing shelter, retaining soil moisture, improving water quality, helping to keep farm pollutants out of waterways - all these add up to easier management and peace of mind.

If fencing is not feasible, you will have to be vigilant and carefully manage stock access to the waterway – physically removing them from the area at the first sign that they are causing pugging.

Extensive farms, such as high country sheep and beef operations should monitor pugging at key crossing and drinking water sites. Stock should be removed from the area if pugging is occurring.



Bridges and culverts are the best way to get stock over streams.

BRIDGES AND CULVERTS

Where you can, use culverts or bridges for stock crossings. It is now easier to install stock crossings as it is a permitted activity (subject to some conditions), to install most culverts and bridges without the need to obtain a resource consent. See guide 6 for more information.