



Stopbank Grazing Guidelines

Horizons Regional Council is responsible for maintaining the river systems in the Manawatu-Wanganui region to minimise erosion and ensure optimum flood protection. We take that responsibility seriously. Stopbanks are our primary flood protection tool and we own (on behalf of our ratepayers) almost 420km of them.

Our stopbank inspection programme shows some stopbanks are not in the condition necessary for optimal flood protection and we plan to rectify this, particularly by promoting improved grazing practices and vegetation management.

Why look after them?

Stopbanks are the last defence against floodwaters in many locations throughout our Region. They ensure the safety of thousands of people and protect property worth billions of dollars from damage.

Our stopbanks have a replacement value of millions of dollars so they are worth looking after. Stopbanks are designed firstly to contain floodwater up to a 'design standard', and secondly to resist erosion for as long as possible when they overtop during 'over design' events. But their effectiveness declines rapidly when the design shape becomes distorted. The major cause of distortion is inappropriate stock grazing practices.

Since February 2004 we have developed a programme for upgrading almost 150 km of stopbank to provide higher standards of protection against anticipated larger, more frequent floods. It makes good sense that these stopbanks are kept in an 'as new' condition for future generations. Equally important, for safety and cost saving reasons, is protecting the 270km of stopbanks that are currently at an acceptable height standard. However in time some of these banks will also need refurbishing because of past stock damage.

How do stopbanks become damaged?



Damage occurs through grazing by heavy animals or animals that dig or root at the ground. Damage is greater when the ground is wet and soil strength is reduced. While damage from a single incident may be relatively minor, all damage is cumulative and becomes very difficult to effectively repair.

Well shaped and vegetated stopbanks are resilient to overtopping for long periods of time. However, as shape and vegetative cover deteriorate the risk of failure increases. Stopbank failure may arise from:

- Concentrated overtopping at sections lowered by frequent stock (or vehicle) movement, resulting in accelerated erosion and ultimately stopbank failure.
- Uniform overtopping on a section narrowed or steepened by stock tracking, causing scour and ultimately failure, much more rapidly than would otherwise occur.
- Development of a seepage path through a narrowed or weakened section resulting from stock digging or camping. Seepage can lead to the development of a 'pipe' and ultimately to a breach.
- Erosion of a pugged or poorly vegetated river-side embankment slope during prolonged high velocity flows.

Other causes of damage include vehicle tracking on the crest or at crossings; poorly managed or 'rank' grass growth causing irregular flow and scouring along the river batter; and localised embankment scouring from inappropriately located fences, ramps, water troughs etc.

The best management option for stopbanks is total exclusion of stock and regular mowing or harvesting of grass. But in most situations this is neither practicable nor affordable.

As a practical and common sense approach to the issue we have developed some guidelines for 'light controlled stock grazing' that we wish to promote with our stakeholders who occupy stopbanks either on their private land or on our leases.



Good grazing practices

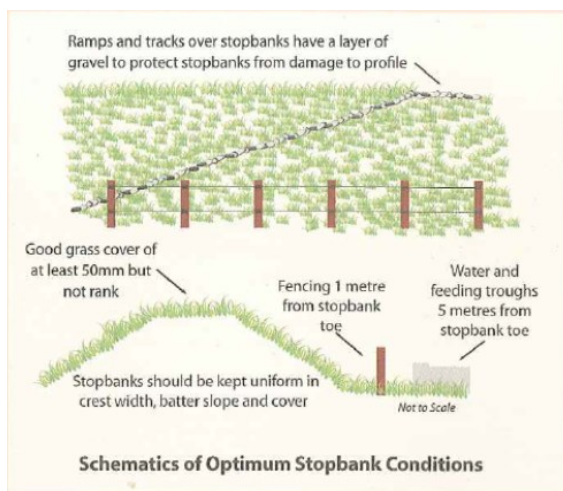
Horizons will allow light controlled grazing of stopbanks by stock that do not dig or root at the ground.

We will allow:

- Grazing by sheep, dairy cows and steers less than 18 months of age, during firm ground conditions .
- Carefully controlled grazing of grass cover to a minimum of 50mm.

We won't allow:

- Grazing by steers over 18 months of age, horses, or pigs at any time.
- Any stock grazing when the soil is soft following prolonged rainfall.
- Holding or grazing cattle on stopbanks during flood events.
- Any cattle grazing from 15 June to 15 September.
- Any feeding out of supplementary feeds on stopbanks.
- Stock feeders or water troughs located on embankments or within 5m of the riverside toe.
- Grass cover less than 50mm.
- Mob stocking or break feeding on embankments.
- Construction of crossings without approval.



What does a good stopbank look like?

A good stopbank has:

- A uniform cross section, with a 3-4m crest width and batter slopes no steeper than two horizontal to one vertical (it will take a long time for the bank to scour if overtopped).
- A uniform longitudinal profile (any overflow will be evenly spread and shallow).
- Uniform grass cover not less than 50mm or greater than 100mm in length (grass cover is very effective at reducing soil scouring), and no bare soil.
- No obstruction to flow by troughs, trees, plant pests, or rail fences in close proximity to the embankment that could generate localised scouring.
- No holes or deformities that could lead to piping.
- Well metallised and maintained vehicle or stock crossings (prevents local depressions developing).

What we expect of you as a lessee or landowner

As a key river scheme stakeholder we expect that you will have a vested interest in the maintenance of a high standard of flood protection and keeping maintenance costs as low as possible.

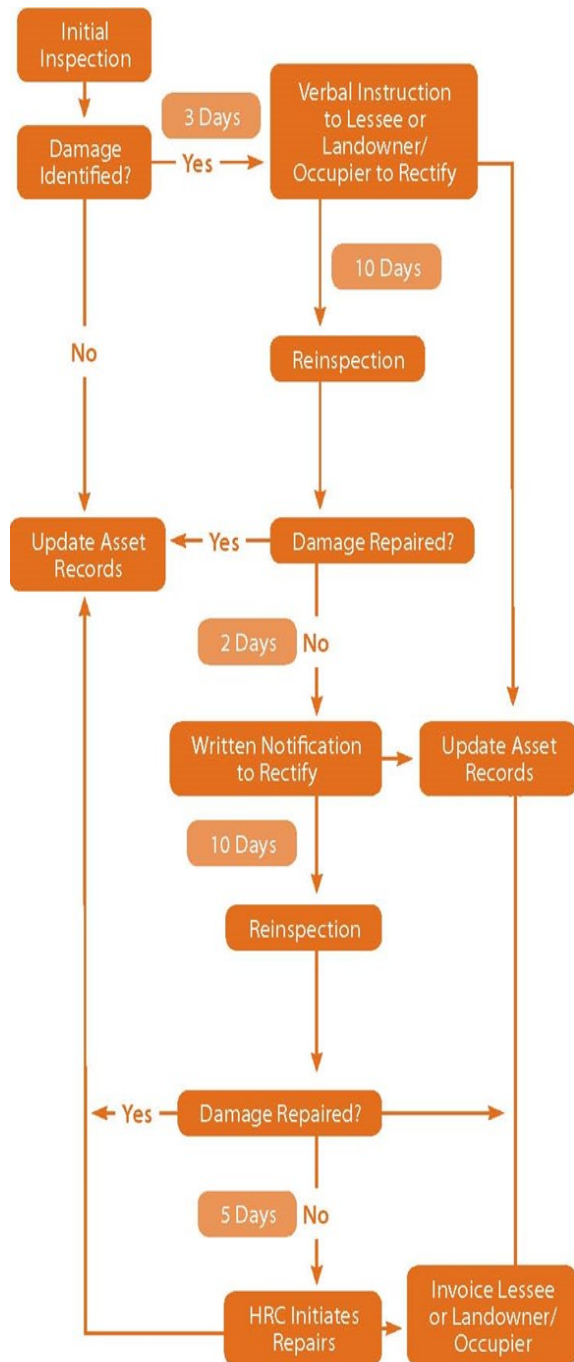
We expect that you will manage the stopbanks on your property according to these Stopbank Grazing Guidelines and will promptly inform the scheme manager of any stopbank deficiencies you observe. In the unlikely event that it becomes necessary to issue a 'Notice to Rectify', we expect you will comply with the terms of that notice.

What are Horizons' responsibilities?

Horizons Regional Council has a responsibility under various statutes, in particular the Resource Management Act 1991 and associated Regional Plans and the Soil Conservation and Rivers Control Act 1941, to manage the flood risk throughout the Manawatu-Wanganui Region.

In meeting our functions and responsibilities we are able to build and maintain flood protection structures. Under the statutes, it is an offence for any person to damage structures that exist for the purpose of providing a defence against water. Additionally, Horizons has the power to enter properties to carry out remedial works and to charge the occupier for the costs of those works.

To ensure that stopbank damage is rectified as quickly as possible, we have developed a process that allows up to 10 days for a landowner to complete verbally agreed repairs, before a formal 'Notice to Rectify' is issued. If repairs are not completed within 10 days of the issue of notice, we will initiate the work ourselves and will invoice the landowner for costs involved.



Horizons Regional Council is committed to providing the wider community with the highest possible level of flood protection and is seeking your cooperation as an owner or occupier of land on which a stopbank is sited, with the implementation of these Stopbank Grazing Guidelines.

Working closely and cooperatively with landowners on this issue is preferable, however as a last resort, we are able to use statutory powers to ensure that the wider community has the protection it is entitled to.

For more information contact
Horizons on 0508 800 800

