



# A guide to farm track and stream crossing design and management



Example of a well-designed crossing with wide, long grass buffers to filter sediment if pugging occurs.

Farm tracks and stream crossings are an important part of the farm and are frequently used by both vehicles and animals. They can quickly be coated in manure and other contaminants that can get picked up when it rains and flow directly into a waterway. Good design and management of tracks and crossings can significantly reduce this hot spot of contaminants.



Stream crossings can pose a risk to water quality

### ► Good design of farm tracks

One goal of a well-designed farm track should be to direct surface water off the track onto pasture, preventing it from building up and discharging into a waterway or eroding the track surface. This can be done with cut-outs, contouring the surface and direction baffles.

#### Track design tips

1. Avoid building tracks adjacent to waterways. If this is necessary, build them sloping away from the waterway so any runoff is directed into the paddock.
2. Consider soil type when designing the track. Construction on heavy soil will require more care and maintenance.
3. Construct your tracks in the summer months to minimise sediment loss.
4. Keep gradients gentle to reduce runoff speed.
5. Install cut outs, baffles or sediment traps to tracks leading towards a waterway to divert runoff into adjacent paddocks.

### ► Good design of stream crossings

One goal of a well-designed stream crossing should be to stop mud, manure and other contaminants building up so they don't then get washed into the waterway after heavy rain. Good crossing design can also help to prevent erosion and allow for fish access.

#### Crossing design tips

1. If the crossing requires a culvert, follow the rules for dimensions and fish access requirements. Note, consent may be required.
2. Avoid using concrete slabs that create shallow, fast water flows preventing fish access.
3. Install cut outs on tracks approaching crossings.
4. Avoid having crossings in low points where mud can be washed into the waterway.
5. Place heavy gravel on crossing approaches to minimise erosion and sediment input.
6. Avoid moving lots of stock over a crossing in wet and muddy conditions.
7. Exclude stock access during winter to prevent pugging and manure build up.

#### More information

You'll find helpful information on the Beef + Lamb and DairyNZ websites:

- [www.beeflambnz.com](http://www.beeflambnz.com).
- [www.dairynz.co.nz](http://www.dairynz.co.nz)

#### Further assistance

For advice and designs to suit your specific needs, call us to arrange a free visit by Environment Southland's land sustainability team on 0800 76 88 45.

Environment Southland | December 2020