Date

ACTION PLAN: POINT SOURCES – TRACKS AND CROSSINGS

01 What information will I need?

- The risk map you created as part of the Risk Assessment unit
- Local council rules covering construction of stock crossings over waterways
- Deer Industry Environmental Management Code of Practice: Page 46

Tick these off as you go

- ☐ 1. Collect the information you'll need
- ☐ 2. State your goals for this target area
- ☐ 3. Identify the risks
- ☐ 4. Document and work out how *high* the risks are
- ☐ 5. Record what you've already done
- ☐ 6. Set out what you still need to do

Then monitor progress, e.g., downstream water quality

There's a place to fill these in at the end of the document

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02 Goals

Start by setting simple overall goals for tracks and crossings. **Here are some examples:**

My goals for managing tracks and crossings are:

1. *I want to stop stock crossings from being a source of contamination in waterways*
2. *I want to improve the tracks and crossings on my farm and build new ones where necessary to reduce sediment runoff into creeks.*

Go to the template at the end of this document to fill in your goals and the other parts of your Action Plan.

03 What are the risks from tracks and crossings?

DID YOU KNOW...

The risks

Concentrated soil, dung and urine can run off from tracks and crossings, so they create a risk for phosphorus, bacteria and sediment loss.

HANDY HINTS

Reducing the risks

- Carry out assessment of work required as soon as you can, then fit work into annual maintenance programme subject to budget, design, local rules and consenting requirements.
- **Camber** tracks and use **cutouts** where possible to direct the flow of water away from waterways and into grassed paddocks.

Reducing the risks cont.

- Where formed stock races cross waterways, these should be **bridged** or **culverted**, designed so that:
  - they are above the bank level
  - any run-off will flow back into the paddock rather than down into the waterway.

04 How high are the risks from tracks and crossings?

Using your risk map, identify points on tracks and crossings where there's a risk to waterways and record them. **We've started with some examples below.** Tailor this to your situation using the template at the end. See the "Risk Assessment" module for how to assess level of risk:

Activity/location examples	**Risk assessment**	**Comment** *(make a note of anything specific to your place)*
Washouts during heavy rain	○ ● ○	*Heavy rain events are getting more frequent*
Culverts getting blocked	○ ● ○	*Causes localised flooding and damages stream banks*
Track runs adjacent to a waterway with no grass buffer in between, meaning all runoff from the track heads into the creek	○ ○ ●	*Runoff into creek whenever it rains*
Bridge crossing at the bottom of a steep hill – runoff from track and bridge gets into creek	○ ○ ●	*Infrequently used track so less dung and urine likely to be washed off, but sediment from track does end up in creek*
High country creek crossing, no bridge or culvert	● ○ ○	*Used infrequently, water clears quickly once through, not practical to culvert or bridge*
Culverts and fenced off waterways – some runoff when wet as stock cross the culvert	○ ● ○	*Culvert used often. Creek already fenced and culvert is wide. Need to reduce runoff from the top of the culvert*

● *Low* ● *Medium* ● *High*

HANDY HINTS

Stock crossing example

This crossing has some great features already. The waterway has been fenced on the far side to exclude stock. The lip on the edge of the crossing helps to capture any dung or sediment and direct it back to the pasture, rather than over the edge into the waterway.

Fencing this side, and perhaps adding some plants like carex and flax to intercept sediment would finish it off (see sketch on photo).

Photo: Graham Anderson

Portable bridge

This farmer had a transportable bridge built so sheep could cross this river safely. Could this work for deer if the sides were high enough?

Photos: Nicola McGrouther

Timber barrier

Planks placed on edges of bridge to prevent runoff into creek.

FOR FURTHER INFORMATION

Environment Southland: Guide to farm track and stream crossing design: bit.ly/3grgBuS

Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 (includes requirements on construction of waterway crossings)

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05 Actions on tracks and crossings

Write down (a) what you've already done to reduce the risk loss of phosphorus and sediment around tracks and crossings and then (b) what you have got planned. **Here are some examples.** Record your own completed actions and planned actions in the template at the end.

Goal	Risk identified	Risk level	Action	Measure and monitor	Date initiated	Who
Waterways Management	*Sediment and dung from tracks getting into waterways*	○ ○ ●	*Camber tracks and use cut outs to direct run-off into grassed paddocks*	*Visual inspection*	*1 May 2020*	*Me, farm staff, consultant, contractor, regional council*
	Direct deposition and stream bed disturbance	○ ○ ●	*Bridge or culvert formed stock races where they cross waterways, or where animals cross them more than twice per month*	*Visual inspection*	*Done in 2015*	
	Track runs adjacent to a creek	○ ○ ●	*Camber track so runoff runs into paddock away from the creek*	*Visual Inspection. Photos of work done*	*Planned for when digger next on property in 2023*	*Me*
	High country creek crossing, no bridge or culvert	● ○ ○	*Monitor impacts – check creek for any long-term damage or sediment build up.*	*Visual inspection*	*Ongoing*	*Me, staff*
	Culverts and fenced off waterways – some runoff when wet as stock cross the culvert	○ ● ○	*Put some planks on either side of the culvert to stop runoff of dung and urine and sediment from the top of the culvert. Direct runoff into paddock.*	*Photos before and after*	*This month October 2022*	*Me*

● *Low* ● *Medium* ● *High*

TEMPLATE: TRACKS AND CROSSINGS

Fill out your Action Plan for tracks and crossings here.

Date

02 Goals

My goals for managing tracks and crossings are:

03 How high are the risks from tracks and crossings?

See the "Risk Assessment" module for how to assess level of risk:

Activity/location	**Risk assessment** *(low/medium/high)*	**Comment** *(make a note of anything specific to your place)*

Low *Medium* *High*

Actions: What I've already done to manage tracks and crossings

Write down what you've already done to protect against losses of sediment and dung into waterways around tracks and crossings. Link it back to your goals and risk assessment (above). Include timing and who's responsible.

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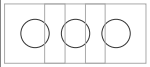
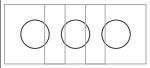
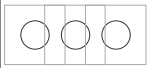
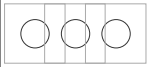
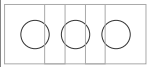
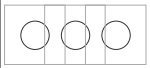
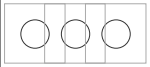
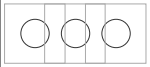
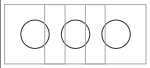
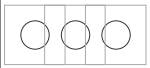
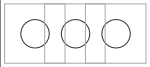
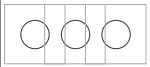
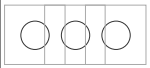
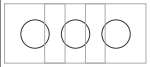
						
						
						
						
						
						
						

Low *Medium* *High*

Actions: How I will manage tracks and crossings

Write down what you've still got planned to protect against losses of sediment and dung into waterways around tracks and crossings. Link it back to your goals and risk assessment (above). Include timing and who's responsible.

Goal	Risk identified	Risk level	Action	Measure and monitor	Date initiated	Who
						
						
						
						
						
						
						

When you've completed this template, save this document onto your computer. You can amend it later if you need to.

Low *Medium* *High*