



Cultivation & Grazing Management

- Test soils before planting pasture and crops.
- For all cultivation adjacent to a water way leave a vegetative buffer strip to prevent sediment and P runoff into the water.
- Cultivate along contours (rather than up and down the slope) where slopes greater than 3°.
- Use Direct Drill where possible with cross slot drill, GPS guidance and crop sensing.
- Exclude stock from waterways, drains and wetlands. Prevent livestock from reducing water quality through bank damage, and animals defecating in water. www.dairynz.co.nz/environment/land-and-nutrient/waterways/
- Retain sediment on the land before it gets to waterways by buffer strips and sediment retention ponds. Excessive sediment causes water quality, drainage and flooding problems.

Hot Spots

- Silage stacks are located at least 50m from surface water and any leachate is directed to pasture or the farms effluent system.
- Any offfal or rubbish pits are sited to minimise risk of leachates entering ground or surface water.

Infrastructure

- Install bridges and culverts instead of tracks that go through waterways.
- Maintain stock races and direct water running off them away from waterways and into paddocks through the use of cut-offs.
- Locate troughs away from streams.
- Direct run-off from bridges and races into paddocks and away from waterways.

THE UPPER BULLER

Good Management Practices

for meeting production and water quality standards

Project website: www.landcare.org.nz/Regional-Focus/Nelson-Office/Buller-River-Project

Rural Recycling

- Farm plastics including agrichemical containers and silage wrap must not be burnt. Recycling programmes operated by Agrecovery (for agrichemical containers) www.agrecovery.co.nz/ and Plasback (silagewrap) offer alternatives to burying or burning this type of plastic. www.plasback.co.nz/
- Follow good practises when burning to avoid causing nuisance to neighbours and reduce risk of fire escaping control. www.tasman.govt.nz/policy/policies/guidelines-for-best-practice/good-practice-guide-to-outdoor-burning/

Fire Permits

- Fire permits are required for outdoor fires. These can be obtained from the DOC office at St Arnaud, 03 521 1806.

Biodiversity

- Manage or retire wetlands and swampy areas.
- Protecting native bush will enhance biodiversity values as well as improving stream life and water quality. www.tasman.govt.nz/environment/land/biodiversity/biodiversity-in-tasman/
- Native, ecosourced plants suitable for streambank planting and bush remnant support planting may be available from the Murchison Community Native Nursery at cost price for planting on farms. Sometimes local rare and endangered trees, shrubs and sedges are also available, and farm planting is a great way to help these plants back into the landscape. Contact DOC Nelson Lakes 03 5211806.
- In areas permanently retired from grazing, control weeds regularly.

Erosion

- When grazing is absent and a seed source is nearby, natural regeneration of native plants will succeed gorse and broom so planting may not be needed.
- The sloping banks of hill country streams are particularly vulnerable to erosion. Stock damage to stream banks and vegetation along the stream margin will increase the risk of erosion. Set permanent fencing far enough back to prevent bank erosion and to allow for changing stream meanders.
- Plant trees on greatest erosion risk slopes. Consider long-term productive tree species for areas with large weed burdens and minimal profitability.
- Cultivation practices and timing is adjusted to minimise erosion problems. www.tasman.govt.nz/environment/land/soil-land-management/planting-for-erosion-control/





Irrigation

- Design, calibrate and operate irrigation systems to minimise the amount of water needed to meet production objectives.
- <http://irrigationnz.co.nz/wp-content/uploads/34448-Smart-Info-Flyer.pdf>
- Check daily for excessive runoff/ponding and irrigator problems.

Nitrogen

- Set N application rates and timing to match growth cycle of crop and soil moisture conditions, taking into account all sources of nutrients.
- Nitrogen is best not applied when soils are below 6°C, at field capacity or are severely compacted.
- Suitably calibrate equipment used for N application.
- Use GPS for precise application and recording (proof of placement).
- Use minimum tillage to reduce mineral N leaching.

Winter Intensive Grazing

- If possible minimise risk of pugging, compaction and sediment escape to waterways by careful selection of paddocks for winter crops.
- For intensive winter grazing leave a buffer strip not grazed from edge of drain, stream, river, or lake to capture P and sediment runoff.
- Use portable feed racks.
- Graze from top to bottom of paddock if sloping. Graze lower lying areas and areas closest to waterways last. Avoid leaving stock on during wet periods, for long periods, or concentrated on small sections of the crop.
- As soon as possible replant grazed area in a crop/pasture that will use up the residual N in soil.

Environmental Information

- The DairyNZ Tasman Riparian Guide is available on their website www.dairynz.co.nz/environment/land-and-nutrient/waterways/
- Rainfall and river flow information for the Buller River at Longford can be viewed on the TDC website. Data is updated hourly for rainfall and every 5 minutes for river flow. Information for the past 30 days is graphed for both sets of data. www.tasman.govt.nz/environment/water/rainfall/rainfall-275/ www.tasman.govt.nz/environment/water/rivers/river-flow/riverflow-275/
- LAWA, or 'Land and Water Aotearoa' has water quality information from sites in the Upper Buller area as well as for the rest of New Zealand. www.lawa.org.nz/explore-data/tasman-region/freshwater/upper-buller/

Riparian Management

- Identify areas on your farm where run-off or erosion occur most frequently and have effect on water quality. This includes seeps, boggy areas, springs, gullies and eroding banks. Prioritise for fencing and planting.
- Establish riparian margins which are of sufficient width to adequately filter sediment from any run-off.
- Determine how your waterway behaves in full flow. This will help you decide where to place fences and what to plant. www.dairynz.co.nz/environment/land-and-nutrient/waterways/
- Tasman District Council Land Management Advisor can help with advice and fencing support 03 543 8446.
- Fonterra Sustainability Advisor 027 703 2415 can help with Riparian Management plans on Dairy Farms.

Phosphate

- Keep Olsen P at agronomic optimum, usually 20-30, using soil testing.
- Equipment used for P application is suitably calibrated and well maintained.
- P application separation distances from waterways are maintained. Use riparian planting as a buffer between paddocks, races and the water. The plants act as a filter, slowing down runoff and catching sediment and P.
- Superphosphate is not applied when soils are near field capacity (through soil moisture monitoring or hole digging) or if rain forecast within next 7 days.
- Avoid set stocking wet paddocks and use restricted grazing of forage crops in wet conditions.
- Store and load fertiliser to minimise risk of spillage, leaching and loss into waterways.

Effluent

- Effluent is spread evenly across the area ensuring it does not exceed 150 kgN / ha/per year. Nutrient level of effluent is tested and paddocks are recorded. www.dairynz.co.nz/environment/effluent/tools/
- The effluent system is tested regularly to ensure it is applying effluent in a uniform manner with a measured depth (bucket test) and there is no ponding or run off.
- Sufficient storage is available to enable effluent and waste water to be stored when soils are saturated.
- The system is well maintained and monitored. Staff are trained and immediate action, (fix, clean-up & future proof) is taken. www.dairynz.co.nz/media/195210/4A-Farmers-Guide-To-Managing-Farm-Dairy-Effluent.pdf
- Effluent spread over a suitable area to maximise the use of effluent nutrients.
- Effluent storage systems are compliant with regional and district plan rules.

