



NELSON LIFESTYLERS

Part of Nelson City Council Hill Country Erosion project 2019.

for enhancing your properties, improving biodiversity, reducing erosion and minimising effects on water quality.

GOOD MANAGEMENT PRACTICES

With funding support from



Undertake a Basic Land and Environment Plan

Please remember, this is staged format for general farmers and may appear daunting when all listed together

- Using Top of the South maps (<https://www.topofthesouthmaps.co.nz/app/>) put in your address to locate your property and print out an A3 aerial map of the property (or request one from the council) and draw a farm land and environment map.
- Draw in farm boundaries, 1-4 blocks for the farm based on slopes, aspect, vegetation, soil types or wetness, erodible land, areas with weed issues.
- Draw in infrastructure such as paddocks, laneways, yards, buildings, stock fords/bridges, chemical sheds, water tanks and water systems.
- Draw in streams (both permanent and intermittent), rivers, ponds/dams, lakes and wetlands, sediment dams and where stock can access the waterways.
- Draw in critical source areas (eg septic tanks, troughs, silage stacks, dumps, offal holes, yards, lands, chook/pig pens) where faeces, nutrients and soil can runoff into waterways.
- Draw in existing and planned shelter belts, forestry/woodlots, native bush, pole plantings.
- Draw in existing and planned riparian fences and plantings.
- On a separate table, describe good environmental practices (eg soil testing, fertiliser, cropping/grazing, use of chemicals, water use, waste disposal, predator and weed control, biodiversity protection/restorations and such) being applied on the farm.
- Create an action plan table for environmental improvements and where appropriate map them on the LEP map.



Grazing

- Ensure you have suitable animal types and appropriate stocking rates for your property and the seasons through using sensible buy/sell decisions. Fewer, well fed stock can give better returns than under fed stock.
- Don't overgraze pastures or pug paddocks. Graze wetter paddocks earlier in the winter to avoid pugging and drier paddocks earlier in summer to avoid over grazing. Leave higher residuals during summer dry periods.
- Transfer feed from times of surplus by cutting supplements or defer grazing paddocks but don't let them go long and rank as this can create a fire risk.
- Exclude stock, especially cattle and deer, from a minimum of five metres from waterways, drains and wetlands.



Erosion

- Maintain good covers of pasture on erosion prone land and don't overgraze.
- 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.
- Consider allowing native regeneration to occur in gullies with areas of highly erodible land.
- Retain sediment on the land before it gets to waterways by grass buffer strips, riparian planting, and sediment traps.
- On steep faces prone to slipping consider planting agro-forestry (eg spaced trees), forestry, manuka or carbon forests or fence and leave to regenerate.
- Consider applying for funding; such as the Government (Billion Trees Fund) or to councils (riparian planting, hill country erosion funds).
- Consider registering tree plantings in ETS for carbon credits if they meet the criteria.



Biodiversity

- Manage or retire wetlands and swampy areas as these are a precious resource for native insects, birds and plants, and are valuable for improving water quality. Wetlands on private land are subject to council rules to protect them.
- Protecting native bush will enhance bio-diversity values as well as improving stream life and water quality. Undertake weed and pest management to improve your native areas for wildlife.
- Check for funding and advice from your local council and Department of Conservation.
- Consider permanent protection of native bush, wetlands and open spaces through a QE11 covenant.



Critical source areas

- Walk the farm and identify critical source areas where water and contaminants run when it is wet ie; faeces (EColi), nutrients and sediment can enter the waterways.
- Locate your critical source areas such as overflow from stock camps, septic tanks, rubbish pits, stock yards, troughs, chicken coops, pig pens, offal holes.
- Minimise risk of leachates entering ground or surface water by directing runoff from these areas into sumps, sediment traps or paddocks through the use of cut-offs.
- Identify how they can be fenced to keep stock away when the paddock is being grazed.





Winter grazing

- Carefully select paddocks for winter crops that are not prone to pugging. Leave ungrazed buffer strips on the edges of drains, streams, rivers, or lakes to capture E Coli, phosphorus and sediment runoff.
- When strip grazing, graze sloping paddocks from the top to the bottom and/or towards a waterway. Graze lower lying areas and areas closest to waterways last. This may require portable water troughs and temporary fencing. Back fence behind stock to reduce pugging damage. Consider using a drier paddock to graze on and off when the paddock is becoming pugged or use a dedicated standoff area.
- Use portable feed racks located away from waterways when feeding hay or silage and shift to avoid pugging and nutrient flow into the waterway.
- As soon as possible after grazing of winter crops, re-sow with cold tolerant “catch crops” such as annual ryegrass and grains, that will use up the residual nitrogen in soil and prevent it leaching over winter/spring.



Infrastructure

- Ensure septic tanks are inspected and emptied regularly. Consider upgrading old septic tanks.
- Put in rain water tanks to reduce drawing water from rivers and ground water.
- Install bridges and culverts instead of tracks that go through waterways.
- Locate troughs away from streams and boggy areas as these will be high traffic areas with high faecal contamination. Fix leaks in troughs.
- Build sediment traps to slow the water thereby dropping out the sediment before it gets to a bigger water way. This sediment can be removed from the waterway and spread over the pastures or paddocks about to be cropped.
- Fence off boggy areas and springs and allow them to revert to wetlands that purify water. Use them to filter water leaving your property.



Fire control & biodiversity

- Keep vegetation 10 m back from the house.
- From 10-30 metres away from the house, ensure trees are thinned so they are not touching.
- Prune trees near the house to two metres off the ground.
- Remove dead and dying trees.
- Remove overhanging branches near power lines and remove all dead litter from under trees.
- Use fire resistant plants that remain green all year round such as species like lancewood, coprosma, marble leaf, griselinia, kawa kawa.
- Avoid highly flammable trees such as manuka, kanuka, eucalyptus, and pine trees around your home.
- Mow lawns so grass is short and hopefully green.



Fertiliser and nitrogen use

- Don't apply nitrogen at rates greater than 40 kgN/ha to minimise leaching losses and maximise profitability and don't exceed 100 kgN/ha annually. Light rain after nitrogen application is ideal to reduce volatilisation losses.
- Nitrogen should not be applied when soils are below 90C, wet or are severely compacted.
- Keep Olsen P at agronomic optimum, usually 20-30, using soil testing.
- Superphosphate is not applied when soils are wet but ideally if rain is forecast within next seven days.
- Use equipment for fertiliser application that is suitably calibrated and well maintained and that can track fertiliser placement.
- Fertiliser should not be applied within five metres of any waterway or in gullies.
- Use five-metre wide riparian planting as a buffer between paddocks, races and the water. The plants act as a filter, slowing down runoff and catching sediment and phosphate.
- Store and load fertiliser to minimise risk of spillage, leaching and loss into waterways.



Riparian Management

- Identify where your streams run in full flow. This will help you decide where to place fences and what to plant.
- Identify areas on your farm where run-off or erosion occur most frequently. This includes seeps, boggy areas, springs, gullies and eroding banks. Prioritise for fencing and planting.
- Establish riparian margins (three to five metres on flat land, 10 metres on slopes) which are of sufficient width to adequately filter sediment from any run-off.
- Carry out native planting plans using eco-sourced grown or purchased plants and refer to the Nelson City Council Heritage Living Guide to determine appropriate species for your area.
- Order plants well ahead for winter planting and plan post-planting maintenance.
- Consider learning about the health of your own water way through Council and LAWA, “Land and Water Aotearoa”) water quality measurements or learn how to assess the health of your river yourself (SHMAK resource).

Rural Recycling, fire and chemicals

- Store chemicals in plastic bunds to reduce risk of spills, and in a separate dedicated area that is locked.
- Ensure people purchasing and using chemicals have a suitable AgriChemical Handling Certificate.
- Use rates and types of sprays just sufficient to achieve control of weeds. Consider mechanically controlling large areas of weeds and then spraying the small areas of regrowth to reduce the amounts of sprays needed. Keep sprays out of waterways.
- Farm plastics including agrichemical containers and silage wrap must not be burnt.
- Triple rinse drench and agrichemical containers and ensure the washing waters do not enter waterways.
- Recycle using AgRecovery and Plasback for baleage and silage covers.
- Consider composting dead animals. Don't allow dead stock to end up in waterways.
- Use a chipper to recycle waste from trees and use to mulch plantings.
- Follow good practises when burning to avoid causing nuisance to neighbours and reduce risk of fire escaping control.
- Fire permits are required for outdoor fires.



Cultivation and crops

- Pick your paddock to crop or cultivate carefully. Don't crop on steeper paddocks.
- Test soil nutrient levels before sowing planting pasture and crops and don't apply excessive fertiliser. Check local council rules before commencing.
- For all cultivation adjacent to a permanent and temporary water ways leave a vegetative buffer strip (minimum of three metres on flats and 10-15 metres on slopes) to prevent E Coli, sediment and P runoff into the water. Don't fertilise these buffers.
- Use Direct Drill (minimum tillage) for sowing crops where possible with cross slot drill.
- Cultivate along contours, if possible, rather than up and down the slope, where slopes are greater than 3°.

