Hot spots

- Ensure silage stacks are at least 50 metres from waterways, and any leachate coming from the silage stack is collected.
- Recycle plastic waste from the farm.
- Ensure any offal holes or rubbish pits are at least 50m from a waterway and there is no seepage to groundwater.
- Septic tanks should be regularly emptied and well maintained.

Erosion control

- Plant trees on slopes where there is the greatest risk of erosion.
- Retain vegetation cover in gullies to reduce erosion and provide filtering of any runoff.
- Avoid cultivation of areas susceptible to erosion.

Bank Slumping

- Plant trees on stream margins that will help stabilise banks.
- Keep fencing well back from waterways so that bank erosion is reduced and to allow for changing directions in streams.

Good Management Practices

PATHWAY FOR THE POMAHAKA CATCHMENT PROJECT

Good management practices are:

- Practices which help manage farm resources while minimising environmental risk.

There are many positive outcomes from adopting good management practices on farm, for example:

- Water quality will be maintained and/or improved.
- Water quality provisions in the Otago Water Plan will be easier to comply with.
- There are likely to be economic benefits because of improvements in pasture growth and quality.

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Stock Management

- Fence all stock out of waterways where possible.
- Feed supplements and locate water troughs away from waterways and critical source areas.
- Avoid pugging and soil compaction.
- Ensure deer wallows do not run into waterways.
- Fence off all pressure points.

Effluent Management

- Make sure effluent is not applied directly to, or within 50 metres of a waterway.
- Use low rate effluent applicators, over a large area to capture the benefits of the nutrients.
- Ensure there is no ponding or runoff.
- Document the farm's plan for effluent management including application conditions, rate and time.
- Have sufficient effluent storage – some parts of the catchment need at least 90 days.
- Check your pond does not leak by getting a drop test done.
- Know where your tile drains are and try to avoid application over them.

Infrastructure

- Regularly used stock crossings over waterways should have either a culvert or bridge in place.
- Manage farm tracks, gateways, water troughs, self-feeding areas, stock camps, wallows and other sources of run-off to minimise risks to water quality.
- Maintain races so that effluent goes into a paddock and not a waterway.
- Ensure all effluent run-off is collected from stock handling facilities.
- Ensure all crossings have a lip or bund on the edge so stock waste and mud cannot enter a waterway.

Paddock selection for wintering

- Identify winter grazing paddocks early.
- Ideally select paddocks further away from waterways.
- Look for areas at lower risk of pugging and compaction.
- Identify critical source areas and leave these in grass.
- Select paddocks where you can manage sediment loss.

Winter intensive grazing

- Work out an access and grazing strategy before putting up fences, thinking about the location of stock water sources and using temporary water troughs if necessary.
- Graze paddocks from the top to the bottom.
- Keep the soil on the paddock.
- Retain a buffer zone along any riparian areas.
- Graze critical source areas last and only if conditions allow.

Critical Source Areas

Critical source areas are low-lying parts of farms such as gullies and swales where runoff accumulates.

- Runoff from critical sources areas can carry sediment and nutrients to waterways.
- Where possible keep critical source areas uncultivated and ungrazed.
- By managing these areas we can greatly reduce the loss of sediment and nutrients from farms.

The sections included in this poster are suggested and recommended practices for managing water quality contaminants.

Resources:

Dairy NZ (2016) *Good Management Practices* (Report DNZ40-040). Hamilton, New Zealand
https://www.dairynz.co.nz/media/4106341/Good_management_practices_April_2016.pdf

Dairy NZ. (2017). *Wintering on Crops in the South Island* (Report DNZ40-023, Version 2 – January 2017). Hamilton, New Zealand
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Matrix of Good Management Governance Group. (2015). *Industry-agreed Good Management Practices relating to water quality* (Version 2 - 18 September 2015). Christchurch, New Zealand
http://files.ecan.govt.nz/public/pc5/MGM_Technical_Reports/Industry_Agreed_Good_Management_Practices_MGM_2015.pdf

Otago Regional Council. (N.D.) *Do these first – Southwest Otago Water Quality*. Dunedin, New Zealand
http://www.orc.govt.nz/Documents/Publications/Farming%20and%20Land%20Management/Do%20these%20first%20-%20Southwest%20Otago%20Water%20Quality.pdf

DairyNZ

Project website: www.landcare.org.nz/Regional-Focus/Gore-Office/Pomahaka-Project

Facebook page: www.facebook.com/PomahakaCatchmentProject

Fertiliser Application

- Only apply when conditions are suitable i.e. avoid times when soil temperature is too low.
- Don't apply when heavy rain is forecast.
- Keep well away from waterways.
- Avoid application to critical sources areas.
- Only apply fertiliser that can be used by the crop or pasture (test soils to check nutrient status).
- Little and often is better than lots now and then.

Biodiversity

- Understand the values of your native area before you change anything.
- Manage or retire wetlands, bogs and swampy areas.
- Protecting native bush can help preserve streams and improve water quality.
- Manage weed and animal pests.

Riparian Management

- Keep riparian margins wide enough to filter sediment from any run-off.
- Prioritise areas to protect by fencing and planting.
- Consult your local nursery for advice on the best species to plant in your area.
- Plant trees for shade on north side of streams.
- Long grass can be a very effective filter.