



Healthy Farm Dams - Healthy Waterways

Guidance for grazing and rural lifestyle properties

The health and function of a dam is directly linked to the health and function of your property. The dam sustains life, irrigates crops and can even provide habitat for local plants and animals.

The intention of this brochure is to highlight simple improvements to your dam that adds value to your farm.



Farm Planning

Most [property plans](#) are developed using an aerial photograph of your land and often include clear overlays to depict various features such as:

- permanent physical features including boundary fences, buildings, water sources and remnant vegetation;
- land management units such as different soil types that will require different management strategies;
- your desired management options e.g. establish a vegetation corridor, fence off a dam, establish a windbreak or add a vegetable garden.

A property plan will help you focus your goals, solve problems and allow you to plan your expenditure and time. It gives you something to work towards and ideally

is prominently displayed and frequently referred to, and will change over time. A property plan doesn't have to be sophisticated and can change as items arise, the most important thing is that you have one and you use it.

Property plans can indicate proposed improvements to land management and farm infrastructure and support financial applications with Government Agencies.

Planting in and around dams

A well vegetated dam can improve the water quality in your farm dam.

Fencing should be well designed to exclude grazing from incoming gullies, drains and overland flow paths.

Vegetation and aquatic plants are easy ways to filter out incoming pollutants like manure and sediment from upstream areas.

You can extend the waterline out or flatten batters by creating shallow benches at the edges and adding aquatic plants for additional filtration.

Adding appropriate vegetation and securing large logs in and around the dam increases biodiversity and habitat including beneficial water bugs.

Consider planting vegetation to establish corridors/ shelterbelts between dams and along drainage lines which link to larger patches of vegetation on your property, neighbours and roadsides. Shade reduces heat stress and can reduce the volume of water consumed.

Did you know?



There are almost 2 dams for every square kilometre in Victoria. That's higher than any other State!



Please note: Planting shrubs and trees on dam walls is not recommended and highly discouraged. Any large root systems in dam walls can cause dam wall failures that risk stock and human life as well as the future water supply. If you have trees in a dam wall, please consult a dams engineer. Vegetation can also create blockages for suction lines on pumps. Consider their location prior to planting.



Fencing your dam

By excluding your farm dam from livestock and farming practices, you are improving the quality of your water supply.

Fencing for stock

If stock can't access the dam's edge, they can't muddy the water or get stuck and they can't drown. This improves water quality, which improves stock health. Excluding stock will also prevent damage to the dam wall, to ensure a water supply.

Stock generally prefer to drink from troughs if given the choice. This means increased hydration, improved nutrient and mineral absorption and general improvements for stock health. Rotational grazing improves ground cover which limits the intensity of sediment and runoff.

Vegetation for water quality.

The bigger the patches, the better.

Effluent and nutrient runoff from paddocks upstream can reduce the water quality and potentially create toxic conditions in dams. Poor water quality can lead to a deterioration in stock health and potential impacts for other uses.

Vegetated buffers to dam inflow areas are a good primary barrier to some pollutants entering the dam. Increasing the fencing setbacks from dams, especially at the inflow area, allows for better retention of groundcover plants including pasture species, to perform their filtering function.

Rotational grazing techniques can also limit the intensity of farming by spreading out the concentration of nutrients delivered to dams as the stock are moved to different areas.

Fencing for safety

A fence around a dam or water body, will prevent the accidental entry of children, farm personnel and stock.



Did you know?



By improving dam health, we can reduce greenhouse emissions and increase biodiversity.

Other uses

Dams can be used for multiple benefits beyond the traditional stock and irrigation.

Off-grid energy support

If you're aiming at an "off-grid" lifestyle, have you considered geothermal hydronic heating and cooling using coils in the base of the dam?

Fire fighting

Dams are often used for fire fighting purposes (a suction access point for a vehicle or fire proof pump operation is required).

Increase and improve biodiversity

Can the dam be modified and vegetation enhanced to better support threatened species like platypus, increase the range of frogs, insects, birds and other aquatic life that live in and around the dam. Can you fill it in, or use part of it to establish a wetland and return water to the environment? Environment flows are crucial to support threatened species like the platypus in our waterway systems.

Do you need three small dams that dry out every year or one well constructed dam? Can you install water tanks from sheds to provide clean stock water?



Did you know?



Legal requirements for dam owners:

Environment Protection Act 2017

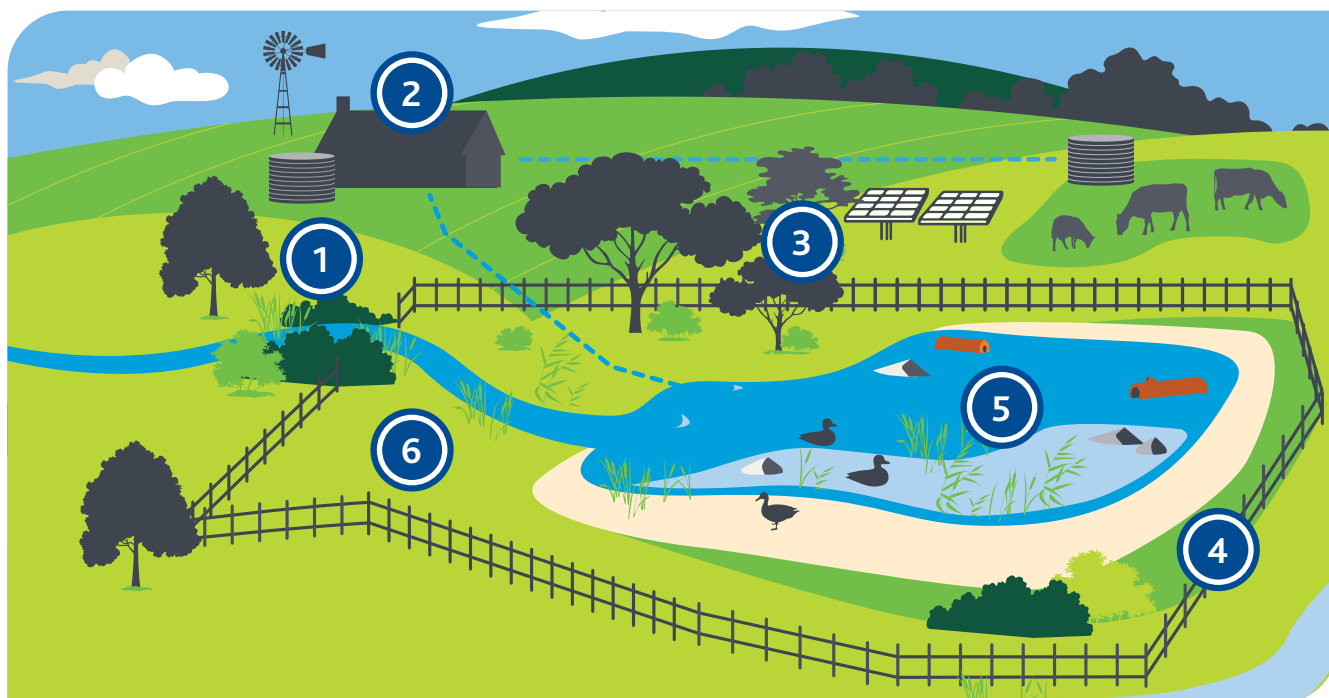
Everyone has an Environmental Duty under the EPA Act. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. General Environmental Duty is the centre of the Environment Protection Act 2017.

Water Act 1989

Under the Water Act 1989, dam owners and managers are legally responsible for dam safety and may be accountable for the damage their dams cause.

Catchment and Land Protection Act 1995

It's not just about weeds and pests! Under the general duties of landowners within this Act, it is the responsibility of landowners to avoid land degradation, conserve soils, protect water resources, eradicate weeds, and prevent the spread of pest animals.



1 Do you want to maximise how much water there is?

Keep water cooler with canopy trees to reduce evaporation.

Divert catchment from roof areas to tanks or dam.

Consider using recycled effluent for yard wash rather than dam water.

Make sure trees and shrubs are not growing within the embankment.

Plant suitable local species for drainage lines around the dam and/or wetland

Ensure you work within the regulations for your catchment.

2 Where is your dam on your farm plan?

How much water do you need now and into the future?

Is there any alternative water supply? Roof water and tanks?

The Agriculture Vic website has a great calculator to work out how much water you need:
<https://agriculture.vic.gov.au/farm-management/water/farm-water-solutions/how-much-water-does-my-farm-need>

3 Can Stock access the dam edge?

Fence to prevent stock entering the dam, pugging and damaging the edges and muddying the water.

Is your pump shed clear of the top water line and fenced off from stock but with easy access?

Provide troughs for stock water rather than access to the dam.

TIP: Talk to Melbourne Water about funding your fence and trough.

4 Is your dam safe?

Including an edge batter with 250mm of depth over 3m will meet Royal Life Saving guidelines, and be safer.

Is your embankment wall free of trees, cracks, penetrations and leaks?

Is your embankment wall generally inaccessible to stock and people?

Do you have a spillway that diverts overflows beyond your dam wall?

Is your dam fenced to prevent children from accessing it?

The Water Act legally requires safe and efficient dams be managed by landholders.

Check out the [Your dam: Your responsibility](#) Brochure.

Royal Life Saving Australia can provide free "please close the gate signs" on application!

5 Does your dam have habitat value to increase local biodiversity?

Fence off and add in some rocks, trees, shrubs and logs to encourage a variety of animals like frogs, butterflies and other beneficial insects.

Creating shallow areas around the waterline of the dam for aquatic vegetation improves the quality of the water.

A good cover of indigenous plants helps to compete with weeds.

Connecting vegetation around your dam and gullies is a great way to increase canopy cover that has a cooling effect on your farm.

Established native vegetation also provides habitat for insect and pollen feeding birds and microbats. These are beneficial to your farm/property.

Shelter belts can also be biolinks providing habitat and connections, allowing native animals to move through the landscape.

TIP: Talk to Melbourne Water about funding your fence.

6 Is there vegetation around your dam to filter out nutrients from fertilizer and manure that might flow in?

Fencing and planting appropriate trees, shrubs, grasses and sedges along upstream drainage lines will filter silt and nutrients before they enter the dam.

This will reduce the frequency of sediment clean out in the future.

Increase groundcover vegetation - such as pasture - around the upstream inflow area of the dam and fence it off from stock.

Cleaner water is better for livestock, better for irrigation, better for the local environment.

For more information:

Farm planning

www.agriculture.vic.gov.au

Farm water solutions

www.agriculture.vic.gov.au

Managing dams

www.dpi.nsw.gov.au

Maintaining your farm dam

<https://www.srw.com.au>

Heat stress in dairy cows

www.dairyaustralia.com.au

Cool Cows - strategies for managing heat stress in dairy cows

Securing water on Dairy farms

www.agriculture.vic.gov.au

Securing water for your rainfed Dairy farm is a good document with lots of useful info

Water quality impacts on stock to water quality improvements

rsfas.anu.edu.au

Increased livestock weight gain from improved water quality in farm dams: A cost-benefit analysis

www.bluecarbonlab.org

Check out the *Blue Carbon Lab* website for methane emissions

Sustainable Farms Project

www.sustainablefarms.org.au

Natural Asset Farming - Book

Creating Productive & Biodiverse Farms, David Lindenmayer, Suzannah Macbeth, David Smith, Michelle Young (2022)

Your dam: Your responsibility

www.water.vic.gov.au

Your dam: Your responsibility

Melbourne Water Incentives Programs

Melbourne Water's incentives program can offer support for farm improvements. These can include fencing off waterways, drainage lines and dams, enhancing dams with vegetation and habitat values, decommissioning dams, formalising dam access points or even stock water systems.

The assistance extends beyond the dam, including the management and supply of native vegetation, access tracks, nutrient management, erosion stabilisation, farm plan development, education and technical advice.

Liveable Communities, Liveable Waterways

(Previously Rural Land Program and Stream Frontage Management Program)

Focused on key rural catchments surrounding Melbourne, this program looks to partner with private landholders to improve waterway health. Contact Melbourne Water for more information on available initiatives [or visit online](#).

For more information on maintaining your farm dam please [visit online](#).

Council Initiatives

Your local Council and Landcare Group may also provide support and or funding available for environmental improvements on your property.

Catchment Management Authorities

Many CMA's have various initiatives to improve waterway health that may also improve the health of your dam. Port Phillip & Westernport CMA has been integrated into MW so these programs are now MW programs. Contact MW to speak with the Rural Land Officer in your region.

Interested in funding or further information about your waterway?

Contact us on 131 722 or email at:
incentives@melbournewater.com.au

For more information about Melbourne Water's programs, visit www.melbournewater.com.au

