



SUSTAINABLE  
FARMS

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HEALTHY PROFITS

# Enhancing farm dams

## Introduction

Farm dams are an important asset in many farming systems, providing drinking water for livestock or water storage for irrigation operations. Appropriate management of these waterbodies can lead to improved productivity and profitability, as well as benefits to biodiversity conservation.

In many agricultural landscapes natural wetlands are rare and, if present, highly degraded. Over decades of agricultural activity, many wetlands

have been drained either on purpose or inadvertently when gullies and waterways erode. Natural chains-of-ponds along wet gullies and creek lines are now uncommon and few wetland areas are spared from the impact of livestock.

While natural wetlands are now in short supply, thousands of farm dams dot the landscape and, with appropriate management, can help restore biodiversity by providing much needed wetland habitats for native wildlife.



Farm dams at Boorowa, NSW





## Benefits to farm profitability

Enhancing farm dams by excluding or reducing stock accesses has many benefits to livestock and the other productivity services.

- Improving the quality of drinking water for your livestock.
- Improving the level of nutrient and mineral absorption by livestock through increased hydration.
- Reducing the risk of exposure to parasites such as liver fluke.
- Reducing erosion and sedimentation of the dam.
- Extending the life of the dam as an asset on your farm.
- Reducing the amount of time and money spent on dredging out sediments from dams.
- Reducing or preventing livestock becoming bogged.
- Increasing natural pest control by encouraging various species of invertebrates such as dragonflies, as well as frogs and birds.

## Benefits to biodiversity

Well managed farm dams can provide habitat for small native fish (including threatened species such as the Southern Pygmy Perch), which are often rare or absent from many landscapes. These populations can be small reserves for fish species and, in wet weather events, become source populations for the wider systems.



Quality farm dams can be critical habitat for a diversity of frog species including threatened species such as Sloane's Froglet and Southern Bell Frog.

Farm dams with good areas of fringing vegetation and/or shallow areas can provide quality habitat for wetland birds including the threatened Australasian Bittern and the migratory Latham's Snipe.



Additional habitat, such as trees, shrubs and tall grass around the dam, can also benefit many terrestrial species. One of these is the threatened Diamond Firetail, which prefers to breed near water points.



**Southern Bell Frog, Grey Teals, and Diamond Firetail**





## How to enhance farm dams

### Exclude livestock

The single most important step to enhance farm dams for farm production (and biodiversity) is to control or exclude livestock. This helps in two ways:

- It allows fringing wetland vegetation to grow, which will stabilise dam banks and act as a filter for nutrients in the water.
- It will reduce or remove the direct effects of livestock on water quality, such as defecating in water and disturbing the soil and sediments on banks and in the dam itself.

### Provide drinking water via water troughs

Total exclusion of livestock from the dam area can be achieved if drinking water is available to livestock in water troughs. Some landowners are reluctant to rely on water troughs because of concern about potential malfunctioning. This concern can be overcome by providing hardened access points that are open at all times or are opened periodically at times when personnel are unavailable to conduct regular checks of troughs.

### Create a grassed buffer zone in the inflow area

Having a well grassed buffer zone in the inflow area of your dam will help to improve water quality by catching paddock run-off such as sediment, animal dung and other pollutants. The larger the grassed inflow area, the more effective it will be.

### Create shallow areas in the dam

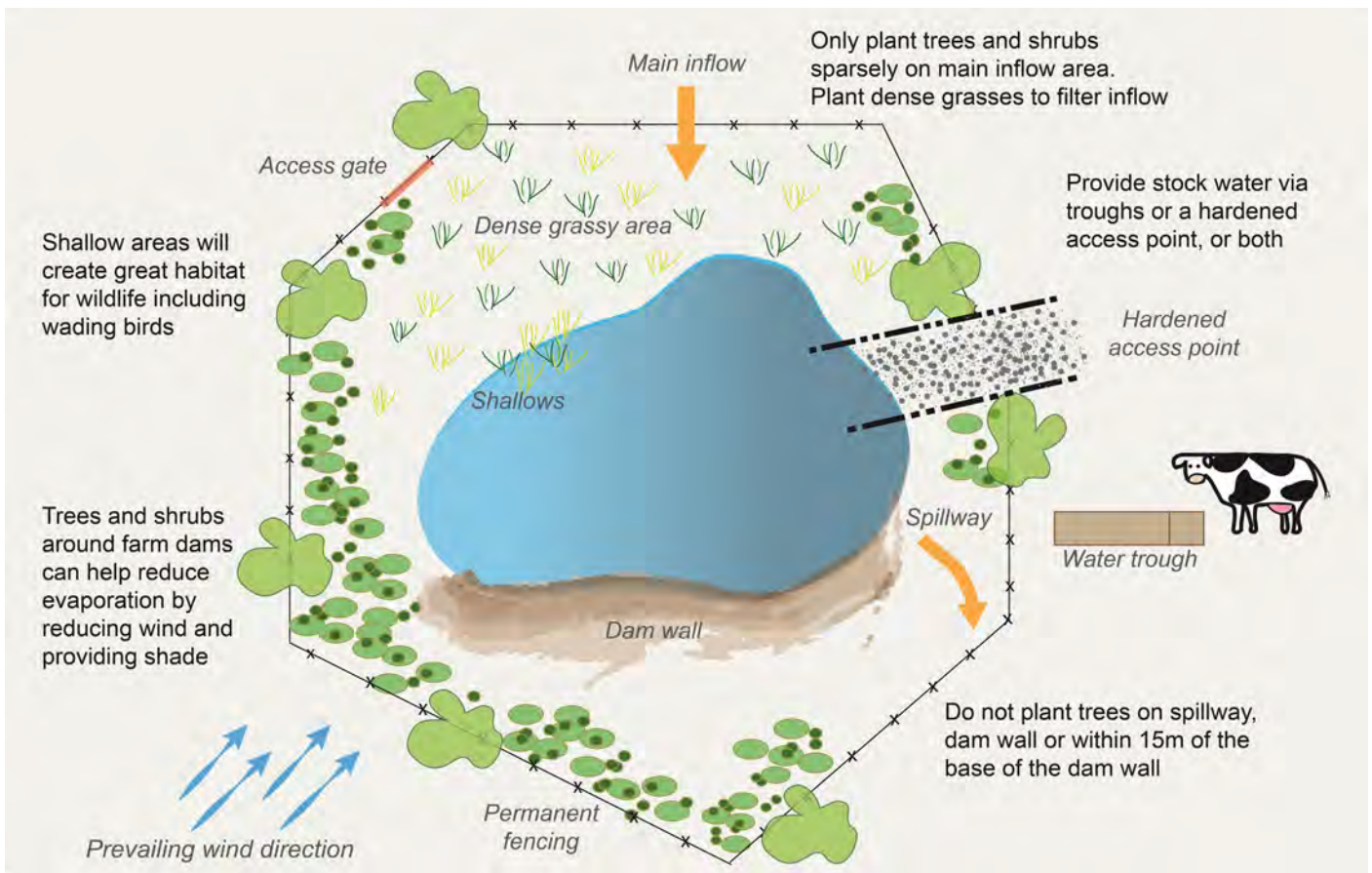
A healthy dam will attract a range of birds. Create shallow areas and perching sites in the dam to add to the diversity of the habitat and make it more attractive to wetland birds.



### Add logs, rocks, trees and shrubs to the dam area

Enhance the habitat and encourage native wildlife to colonise the dam by adding rocks, logs, trees and shrubs to the area. Trees and shrubs can also help to reduce evaporation by reducing wind and shading the water. Avoid planting trees and shrubs in the main inflow areas, spillway or on the dam wall as this will reduce the functionality of the dam. Many wetland plant species will naturally colonise the dam, but planting locally native wetland plants may help hasten this process.

## Plan of a farm dam showing ideal features



### Tips for installing hardened access points

- The best time to install a hardened access point is when the dam is being constructed.
- Retrofitting hardened access to existing dams can still be done, but will be a more complex undertaking.
- Avoid installing access points on the spillway, dam wall or main inflow areas.
- Harden access points with gravel or stone to stop them becoming boggy.



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