

Other improvements to your dam

In addition to planting native species, it is possible to make other changes to improve the amenity of the dam, for you and for your local wildlife.

Include old remnant trees (living or dead, standing or fallen, on land or in water) within the dam fence line. These offer great habitat for wildlife.

Installing nesting boxes around the dam will provide birds, mammals and bats with somewhere to nest, which is particularly important in the absence of any natural tree hollows within your dam reserve. If there are no old remnant trees to provide such hollows, then the provision of a variety of nesting boxes will help to encourage local wildlife to make your dam their home. Nesting boxes are designed to select for different species - the size of the entry hole, the size and shape of the box, and its location within the vegetation (i.e. high up in a tree, low down in a tree, over ground, over water, etc) are important features for designing a box. There are excellent references on this subject - refer Further References.

Consider stocking your dam with fish - there are a number of fish species which offer excellent angling opportunities, and because of the lack of any significant currents to contend with, and the ready availability of food in the dam, stocked fish will put on very good weight over time. Consult with your local Dept. of Primary Industries office to identify the most suitable species for your stocking, and to locate fingerling suppliers.

What Next?

For advice on what funding may be available to help you implement your project or to discuss in more detail any topic raised in this booklet please contact the Westernport Catchment Landcare Network on (03) 5941 8446 or 0429 613 974. If required a visit to your property can be arranged. You can also visit www.wpcln.org.au for further information.

Further references:

"Revegetation Planner" - free from Baw Baw Shire Council and Latrobe Catchment Landcare Network

"Planting Wetlands and Dams, A Practical Guide to Wetland Design, Construction and Propagation", 2nd ed. - Nick Romanowski

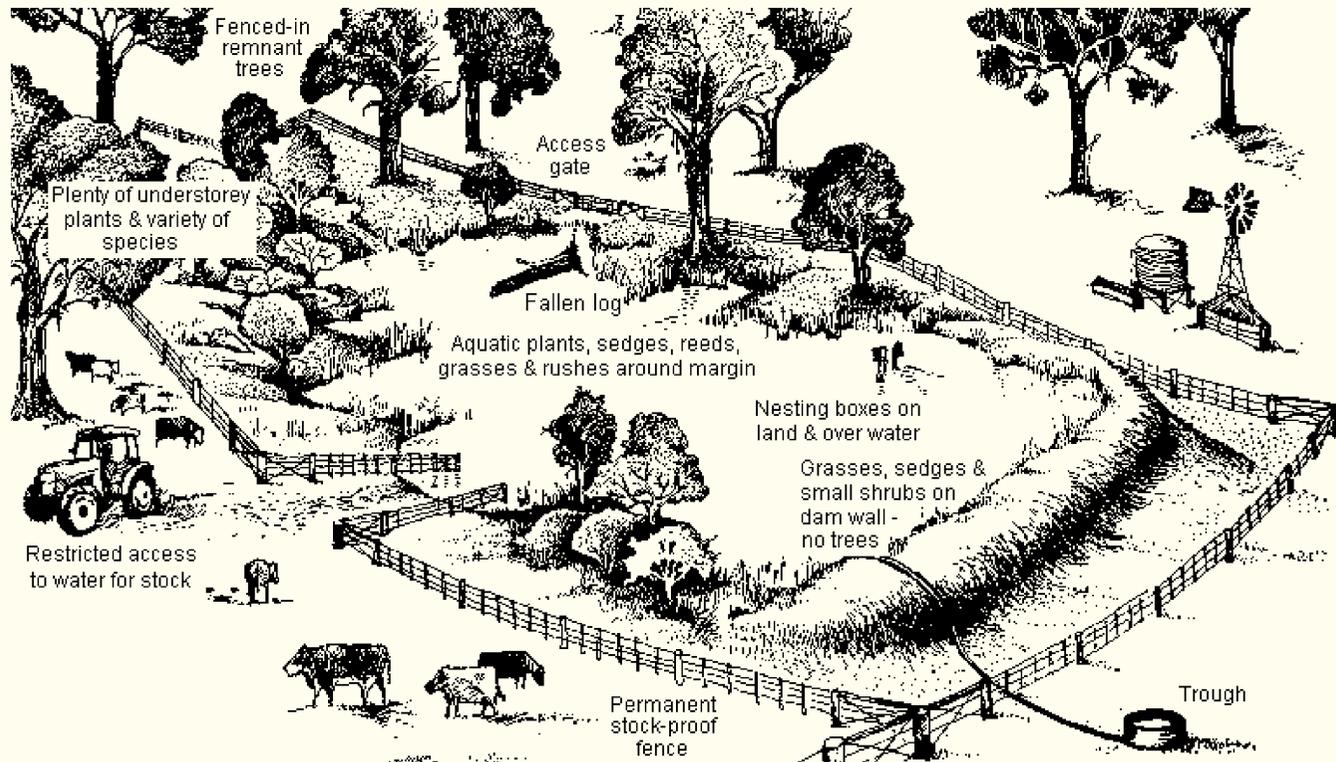
Department of Primary Industries (VIC) - www.dpi.vic.gov.au (search on "Fish in Farm Dams")

"Nest boxes for wildlife - A Practical Guide". - Alan and Stacey Franks

Use your favourite Internet search engine to search on "nesting boxes"



The Westernport Catchment Landcare Network acknowledges the support of its various partners in the production of this edition of the guide



Enhancing Your Farm Dam



A guide for enhancing your farm dam to create a place of habitat, refuge and food source for local wildlife whilst maintaining its role in the productivity of your farm.

One in a series of Practical Landcare guides

Why improve your farm dam?

Farm dams typically exist solely to provide water for stock and for irrigation. They are often not much more than a hole in the ground or a raised reservoir with mounded sides. Sometimes they comprise a wall over a watercourse which impedes water flow and accumulates a reservoir behind the wall. Regardless of their physical structure they hold a large amount of water which is used in farm production.

But with some additional features a farm dam can offer much more to the farm's natural environment by providing for a wide range of local wildlife, and contributing to the farm's productivity. If these features are added to several dams across the farming district (the more the better), then the benefit to the natural environment of the district will be even greater.

What are these Additional Features?

- Stock-proof fencing around the dam to exclude stock access to the dam and to the marginal land around the dam.
- Planting of suitable locally-native species around the dam, & even in it.
- A farm gate to allow access for maintenance (and for fire-fighting equipment).
- Infrastructure to deliver water beyond the stock fence to troughs or the irrigation system - this may be as simple as polypipe and trough(s) relying on gravity feed to siphon water to the troughs, or it may require the installation of a pump (solar-powered would be ideal).
- Alternatively, if a pump is not practicable for you, a fenced track down to the water's edge will allow stock to access water directly at a *specific point on the dam*.

What are the Benefits?

Better farm productivity

- Excluding stock provides *immediate* benefits such as regeneration of native vegetation, and it halts fouling of water by stock and drowning of stock. Halting further erosion of the dam's margin will extend its life and protect your investment in this vital piece of farm infrastructure.
- Cleaner water for stock and irrigation - vegetation around the dam will filter nutrient and effluent runoff from adjacent paddocks; aquatic plants (those plants growing below the waterline) will also use up nutrients which find their way into the water.
- Reduced water loss from evaporation; planting trees around the dam creates shade over water and screens the dam from drying winds.

Enhanced bio-diversity

- Clean water, habitat, refuge and food source for wildlife such as birds, amphibians (frogs and turtles), mammals (e.g. bats), reptiles (lizards and snakes), fish, yabbies, a wide range of aquatic organisms and a wide range of insects such as butterflies and dragonflies. A food web will establish and this will attract a diverse mix of local wildlife species to your dam.

Cleaner natural environment beyond the farm

- Cleaner overflow water leaving the dam and entering into the water-ways that work their way down to the coast via streams, rivers and estuaries. The vegetation that helps provide cleaner water for stock and irrigation also helps to provide cleaner environmental water that leaves the dam. This benefits all species of fauna (terrestrial, aquatic and marine) downstream of the dam. Cleaner water for the environment means less nutrients and less sediment, and this is important for our rivers and estuaries, all of which receive water from farm dams.

Improved amenity

- Provide recreation for friends and family - why not stock it with fish!
- Enhanced aesthetic value and property value.

What are the Success Factors?

The main factors which determine if the enhancement of your dam will achieve its full potential to support local wildlife include:-

- A sufficient margin of land around the dam needs to be reserved, to enable a sufficient planting density of vegetation. Ideally, the margin will be no less than 10m from the high waterline, but it can vary in-wards and outwards if necessary, e.g. to accommodate existing natural features or farm infrastructure. Incorporating nearby remnant vegetation into the fenced-off margin, such as an old gum tree, is ideal.
- Stock-proof fencing needs to be permanent and effective.
- A farm gate should be installed so as to allow periodical maintenance of the revegetated margin, e.g. to manage weeds and to replace lost plants.
- Plants selected for the revegetation should be locally-native plant species, selected for the various zones which fall within the planting site. Achieving a good mix of trees and understorey plants including shrubs, grasses, sedges, and groundcovers will provide the basis for a more-natural environment for the establishment of a wildlife reserve. Consult with your local indigenous nursery or Landcare group when determining what plants and in what numbers you require for your project.

The Steps

1. **Plan the project.** Draw a mud-map of your dam and mark on it the proposed fence-line, and location of gate, polypiping, trough(s) and if required, location of a pump. Do some maths. Calculate:-

(a) **Length of fence**, and therefore, the quantity of fencing materials required.

(b) **Area of the reserved land** inside the fence-line. This will provide a basis for working out the number of *terrestrial* plants required (those plants that occupy land above the high waterline). Once you have worked out the area of the planting site, calculate the number of plants required. As a rule of thumb, a rate of 1,200 tubestock plants per hectare provides a good starting point.



Aquatic plant
Nymphoides sp.
planted below
high waterline
(left)



Terrestrial
plants including
a remnant
Eucalyptus thrive
above the high
water-line (right)



The Steps (continued...)

c) **Length of high water-line.** This will provide a basis for working out the number of *aquatic* plants required (those plants that are rooted below the high waterline). To establish your aquatic vegetation, work on the basis that you will only need to plant at a rate of 1 plant per lineal metre at, or just below, the high waterline. Over time, these plants will self-seed and fill out a corridor around the dam perimeter.

2. **Select your plant species**, consulting with your local Landcare group, Council, Water Authority, CMA or nursery. Use your favourite Internet search engine using the following search text: "indigenous plants *your district/town/region*". Use the diagram on the back page to work out a good mix of the different plant types needed for the different zones.

3. **Order your plants** 4-6 months in advance, to guarantee availability of selected species in required quantities. For ease of planting aquatic species, consider planting when the dam is seasonally low (eg. in Sum-mer or Autumn) so time the collection of these species to suit.

4. **Prepare the site.**

*The Neerim & District Landcare Group has published a useful **Revegetation Planner** which covers the following planning steps in more detail - refer Further References overleaf.*

5. **Install your fencing and infrastructure** (poly, trough, etc).

6. **Collect your plants.**

7. **Plant your seedlings.** *A word of caution:* Do not plant trees or large shrubs on the dam wall if there is one. However, planting smaller shrubs, native grasses, sedges and rushes will not only provide good habitat for local fauna, they will also help bind the soil in the wall and contribute to its strength.

8. **Monitor & Maintain.**

And in doing so, pat yourself on the back for making a wonderful contribution to the health of our natural environment!

Acknowledgements:

This guide was originally produced with the support of the Neerim & District Landcare Group, assisted by the Latrobe Catchment Landcare Network, with funding through the Australian Government's Caring for our Country.



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Farm dam illustration: Helen Timbury, October 2010

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