LIVING WITH WILDLIFE

Farm Dams and Waterbirds

Parks and Wildlife Service Tasmania

Produced in consultation with Nature Conservation Branch, DPIWE

Tasmania

DEPARTMENT *of* TOURISM, PARKS
HERITAGE *and the* ARTS

A farm dam can do more than store water. Dams of any size can attract a variety of waterbirds, with numerous benefits to the farm and the owner.

Many existing dams are ugly, barren water-holes. They can, with relatively little effort, become feeding and breeding places for waterbirds, without reducing their agricultural usefulness.

Farmers and hunting groups have shown an interest in improving dams, but need advice. The aim of this article is to provide some ideas and information on ways of designing or changing a dam to make it suitable for waterbirds.

Why make farm dams suitable for waterbirds?

Since European settlement in Tasmania there has been a great reduction in wetlands suitable for birds such as swans, ducks, herons and grebes. Farm dams can partially offset that loss. An attractive ecologically stable dam that is a good home for waterbirds is also an asset to any property.

What do waterbirds need?

Waterbirds have three major needs: *water*, *food* and *shelter*, but each type of bird has its own particular requirements. Thus the greater the variety of water depths, food and shelter, the greater will be the number of bird species inhabiting the dam.

Water and food

Areas of shallow water provide the most food for waterbirds. Where water is less than 1m deep the availability of light and warmth results in abundant growth of water plants. Many floating plants are eaten by swans, black ducks and teal.

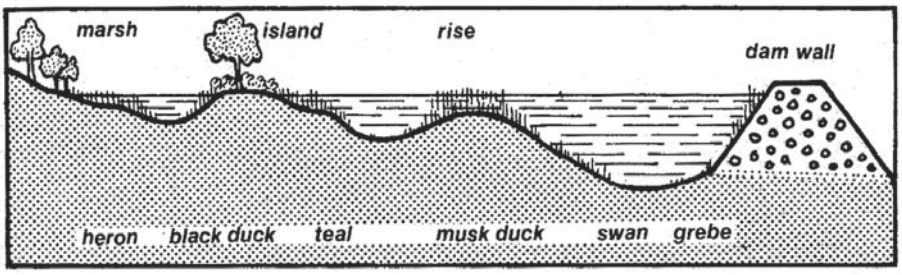

Fig 1. Profile through a farm dam showing the range of water depths necessary to attract a wide variety of waterbirds

Shallow water bordering dry land supports various rushes, reeds and sedges. These provide limited food, but plenty of shelter and some nest materials. These reed beds are also important in protecting the banks of the dam from erosion by wave action. The many plants growing in shallow water are food for insects, snails and various other invertebrates, which in turn are eaten by grebes, coots and ducks.

Small fish feeding on the water plants are food for herons and egrets, while the soft mud supports worms, shrimps, frogs and tadpoles which are preyed upon by bitterns, herons and other wading birds.

Areas of deep water are used by diving birds, which feed on fish and inverterbrates, and by swans which feed on submerged plants. In both shallow and slightly deeper water, large plants provide sheltered water for the growth of algae and small floating duckweeds.

Shelter

Waterbirds need shelter both in and around the dam. Rushes and bushes away from the water can also provide breeding sites. Some waterfowl (black ducks, teal and mountain ducks) use old hollow trees for breeding. Artificial nesting sites can also be provided to increase duck breeding, but unfortunately they are often taken over by pests such as starlings. Where needed, wooden nesting boxes mounted on posts, over or near water, are suitable.

Trees should be planted around the margins of the dam to provide roosting, refuge and eventually nesting sites. Initially they need to be protected from browsing rabbits, wallabies and livestock. Eventually they can serve as windbreaks and stock shelter, and may also shade the dam and reduce evaporation. They should not be planted too thickly or they may obstruct flight paths to and from the water. Planting of trees too near the dam wall should be avoided as their roots may weaken the wall.

When planting trees it is usually best to use local native species. Paper bark *(Melaleuca)*, bottlebrush (*Callistemon*) and teatree (*Leptospermum)* are adapted to a wide variety of soil types and climatic conditions. Swamp gum (*Eucalyptus ovata)* grows well in swampy conditions.

White gum (*E. viminalis)* is suited to well drained, well watered areas. A wide variety of native trees and shrubs are available from most nurseries.

Designing or modifying a farm dam for waterbirds

Variety is most important. The dam should vary in depth, and include deep open water, as well as large areas of shallow water. The edges of the dam should be as irregular in shape and gently sloping as possible. This increases the area of shallow water, and increases the variety of living places (habitats).

Islands are very important to the success of wildlife in a dam. Firstly, they add to the amount of shallow water, thereby increasing the available food. Secondly they provide shelter from the weather, especially when thickly vegetated. Thirdly if placed sufficiently far from the edge of the dam they become predator-free breeding sites.

Earthen islands are easiest to construct during dam building, either by cutting across a spur or by building up the height of an existing mound. Islands should not be more than 1m above the water level, but should be high enough to prevent flooding in windy weather.

Fencing is an important part of developing a dam for waterbirds. The chief function of a farm dam is usually to supply water for stock and crops. If it is also to provide good waterbird habitat, livestock access must be controlled. A good grass cover should be kept around the dam's edge to provide feeding and resting areas for birds, and to control soil erosion. Paddocks surrounding a dam can have access to the water, provided that access is limited to certain areas, however it is better to pipe water to a trough. In time water plants and algae and a variety of invertebrates (snails, insects, shrimps, etc.) will naturally colonise a dam. Wind and waterbirds act as agents of dispersal, but plant species that are useful to waterbirds may be planted by the owner. Many water plants will strike readily from leafy cuttings or rootstocks (rhizomes). Others may be propagated from seed.

Weeds

The water weed known as bullrush or cumbungi (*Typha*), though providing cover, can spread rapidly, causing discolouration of the water, silting, and a build up of masses of rotting organic matter. It should be controlled by pulling plants out by hand, cutting the stalks below the water level or, as a last resort, spraying with suitable herbicides. Care should be taken with the application of fertilisers to surrounding pastures, as they may be washed into the dam and cause excessive growth of water plants and algae (eutrophication). Use of the dam by waterbirds and fish will help to keep plant species in balance.

Fish will hide among water plants, but additional shade and protection can be provided by earthenware pipes, old tyres and rolls of plastic mesh.

Duck shooting

Some species of ducks may be taken during an open season lasting for about 12 weeks in March, April and May. A hunting licence from the Nature Conservation Branch of the Department of Primary Industries, Water and Environment is necessary.

Further information

Nature Conservation Branch: DPIWE
134 Macquarie St, Hobart 7000
Phone: (03) 6233 6556
Fax: (03) 6233 3477

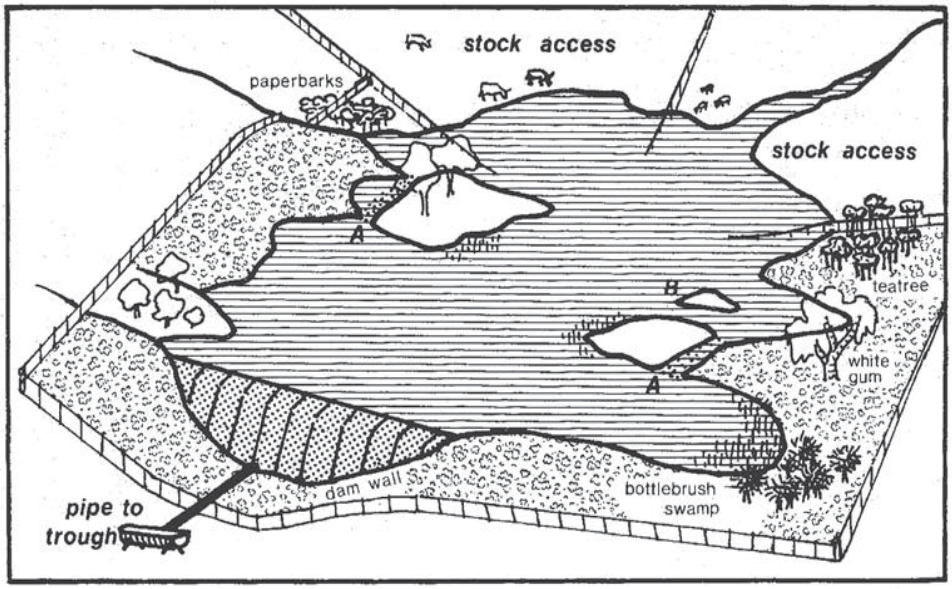

Fig 2. Design and fencing strategy for a large dam that make use of the land's contours and excludes stock from areas reserved for waterbirds. A-bulldozer cuts. B- built up island.

Head Office: 134 Macquarie Street Hobart TAS 7000
Phone: 1300 135 513
Internet: www.parks.tas.gov.au