



protecting remnant bush

ON YOUR LAND

This note has management guidelines of a general nature and addresses specific on-ground activities that are applicable to protecting and managing most remnant vegetation. This includes woodlands, forests and grasslands. The notes do not apply to sensitive areas such as wetlands, native grasslands, or areas including threatened species. If you have or think you have some of these sites you should seek specialist advice.

what is remnant vegetation?

Remnant vegetation or bushland can be defined as those patches of native trees, shrubs and grasses still left. Remnant vegetation:

- can be any shape or size.
- can include all types of native vegetation communities, including forest, woodland, native grasslands, mallee, coastal heathland, or rainforest.
- occurs on all land tenures, both privately and publicly owned.

why conserve remnant vegetation?

Remnant vegetation is rapidly disappearing - due to clearing, dieback, overgrazing, inappropriate burning and weed infestation.

The small remnants of native vegetation that remain are valuable and they:

- may enhance property values and provide other social benefits such as tourism, education and recreation
- are places where our native flora and fauna can survive
- help protect against salinity and soil erosion
- assist in maintaining water quality and a constant water flow in streams
- provide shelter for stock and crops
- provide for natural pest control
- complements bushland protected in National Parks and other nature conservation reserves.

managing remnant vegetation

Good management of remnant vegetation requires planning, which includes;

- locating these patches of bush on your property or within the catchment
- finding out the 'health' of your remnant vegetation: for example, whether the trees are suffering from dieback.
- identifying what kinds of plants and animals are using your piece of bush
- mapping other resources on your property, including water and arable land.

Planning will determine the priorities for management and the best means of managing your resources, particularly your remnant vegetation.

how good is that patch of bush?

Knowing which patches of remnant bush are good and which are degraded is important. If funds and resources are limited, you then know which remnants to protect and manage first.

Generally, it is better to start with 'healthy' remnants because they need fewer resources to look after than to repair 'degraded' remnants.

Undertaking a bushland assessment can tell you the condition of your remnant vegetation.

Bushland assessment is a simple technique. You don't have to be an expert or a trained scientist. You just have to look a bit more closely.

good habitat and degraded habitat - how can you tell the difference?

Healthy Habitat	Degraded Habitat
The natural tree cover remains	The tree cover partly or completely cleared
It is free of weeds and exotic grasses	It has been invaded by weeds and exotic grasses
There is a range of understorey plants	There are few or no understorey plants
There is regeneration of trees and other plants	There is no regeneration of young trees and other plants
There are old trees with hollows	Old trees with hollows are missing
There are fallen logs and timber	There are no fallen logs and timber
The trees have a healthy foliage cover	The trees are showing signs of dieback



Healthy bushland has a diverse understory

THE UNDERSTOREY

The understory refers to the native shrubs, grasses and ground-cover plants living beneath the trees.

The understory is often overlooked, but in many ways it is the most important part of the bush. Of all the plant species in a 'good' patch of remnant vegetation, the majority will be under the trees. These shrubs, grasses and herbs, vines and mosses, climbers and ground covers are vital to the health of that bushland.

Many native animals rely on the understory for food and shelter. Without the understory, the balance of nature has gone, and the benefits that remnant vegetation provides (natural pest control, nutrient recycling) are diminished.

DEGRADED HABITAT IS STILL IMPORTANT

An area of degraded habitat may still be important! The type of native vegetation it contains could be largely cleared elsewhere, or it still may contain rare or endangered species.

You can bring back many of the native plants and animals that used to live in your area. With the correct management, areas of degraded habitat can be restored and become valuable assets to your property and your community.

Bush regeneration on your own land.

'Bush regeneration' means returning a degraded plant community to a healthy community of native plants. Bush regeneration is also known as 'on-ground works', which refers to the measures a landholder takes in protecting and restoring native vegetation. Different methods are used for different situations and types of bushland. These methods include;

- fencing to control grazing by domestic or feral animals;
- removing competitive weeds;

- planting native species around the remnant to act as a buffer from strong winds and other threats;
- controlling land degradation such as erosion; and
- planting additional local native species adjacent to the remnant, on degraded land, or within the remnant or as a corridor to link it with other remnants.

FENCING

Sometimes, the most important way of protecting remnant vegetation is to keep out stock by fencing. The type of fencing you use will depend on:

- the length of time or season you need to keep grazing animals out of the remnant;
- the type of animals you want to keep out; and
- your available resources.

When fencing consider doing the following:

- fencing an area bigger than the existing remnant to allow regeneration within and around the remnant
- making sure animals cannot reach over the fence to graze the vegetation (electric fencing is a cheap way to exclude stock but allow the passage of native animals into the remnant – ensure your fence will not electrocute native animals such as echidnas);
- excluding stock from these areas during flowering and seeding periods of native species; and
- extending the fencing around and down-wind (in the opposite direction to the prevailing wind) of the remnant, if prevailing wind in your area is constant and strong.

WEED CONTROL

The method of weed control that you choose depends on:

- whether there are native plants in, under or around your weeds;
- which weed species are present;
- the level of infestation;
- the growth-form of the weeds (ie. do they grow from suckers); and
- whether you should, or are willing, to use herbicide.

Whichever method you choose, work through the following stages.

- Work out what resources you have, including materials, time, costs and the effect on the fauna and existing vegetation community
- Identify the plants that are acting as weeds, including non-local native species. Some species, particularly spiky weeds with a dense form, such as African box-thorn, act as a refuge for both native animals and introduced species. Seek specialist advice before proceeding with weed removal if those weeds provide habitat for native species. You will also need to control vermin before natural regeneration will occur.



- Design and undertake a program to remove or control those plants that are the greatest threat. Find out about the size, life-form (eg. does it have underground organs?), density and area affected by these weeds, and the degree of erosion control required.
- Keep a record of your activities and monitoring the results of your work.

USING HERBICIDES

When you use herbicides consider:

- the type of natives present and their proximity to weeds (using a herbicide that becomes inert on contact with the soil will minimise movement from one plant to another);
- the type of herbicide and how you apply it (eg spraying, cut stump, stem injection);
- the proximity of the weeds to waterways; and
- where you can seek advice on the most appropriate herbicide and method of application for your needs—Greening Australia, the NPWS, the local Department of Agriculture, TAFE colleges or the National Trust can assist.

When using herbicides always follow the instructions on the label

PHYSICAL CONTROL

Using herbicide is not always the most appropriate way to control weeds. A herbicide may harm native vegetation more than the weeds. In this case removal of weeds by hand or machine may be necessary. Remember that some weeds are extremely difficult to remove and may re-shoot from plant material left in the ground. You will need to carry out follow-up weeding.

Mechanical removal may also result in more weeds due to soil disturbance. Careful planning can prevent the growth of weeds that are harder to remove.

Other physical methods of weed control include fire, cultivation, heavy grazing and scalping.

These physical methods should only be used in degraded areas where weeds are the most common species present.

PLANTING NATIVE SPECIES

Once an area of remnant vegetation has been fenced and vermin and weeds have been controlled, the bush may grow back from stored seed, coppices and underground organs. If in an area soil conditions have changed due to prolonged grazing, salinity, or erosion, you may need to revegetate with local species that suit the changed environment.



Fence your bushland areas allowing room for natural regeneration to occur at the edges of the remnant.

Two methods of revegetating an area are direct seeding and planting tubed or open-rooted stock (using propagated material). The method you choose will depend on the total area you intend to revegetate and the resources available. A more detailed description of these revegetation methods can be obtained from Management Note No 12.

When revegetating, remember the following:

- You should collect seed and propagation material from within or as close to the remnant area as possible.
- If you cannot obtain enough seed for revegetation ask adjoining landholders for permission to collect from their land. If you collect on public land, such as roadsides, travelling stock reserves and nature reserves, a permit must be obtained from the landholder (eg State Forests, NPWS, Department of Lands, local council).
- Plan ahead. Many plants do not produce seed every year (most species will seed around summer), depending on the plant species, prevailing weather conditions and your geographical location.
- Sites should be disturbed as little as possible when collecting seed, as remnant vegetation can be damaged by trampling and excessive removal of foliage.
- Follow guidelines for ethical seed collection.
- Propagate, or if necessary, order plants early for the planting season.
- Plants are naturally adapted to specific environmental variables including slope, aspect, temperature, tolerance to rising groundwater and salinity etc. It is important that you choose plants that are not only local but are adapted to the environmental conditions at the site; eg. river red gum (*Eucalyptus camaldulensis*) grows along waterways and is adapted to flooding and nutrient-rich soils.
- Plant a wide range of local native species, including trees and shrubs and, where appropriate, grasses and other groundcovers



- Start preparing the site as early as possible; eg. deep ripping heavier soils six months ahead when the soil is dry, mounding where necessary and weed control.
- Plant when the seasons are favourable.
- Use good quality plants that are not root bound, showing other root defects, flowering while still in the container or plants which appear stressed from insect or fungal attack.
- Do not plant more than you can maintain in a bad year.
- Monitor the progress of your project.
- Careful planning and management of control burns will minimise the risk of fire completely destroying native bushland; however some selected burning may be necessary for regeneration. Ask officers from the Rural Fire Service or staff from the National Parks and Wildlife Service for advice on the appropriate fire regime for your site.

references and further reading

Buchanan, R. (1989). *Bush Regeneration. Recovering Australian Landscapes*. TAFE Student Learning Publications. Sydney.

Ralph, M. (1994). *Germination of Local Native Plant Seed for Revegetation, Tree Planting and Direct Seeding*. Bushland Horticulture Publication, Melbourne.

Ralph, M. (1994). *Seed Collection of Australian Native Plants, for Revegetation, Tree Planting and Direct Seeding*. Bushland Horticulture Publication, Melbourne.

Youl, R and Cummine, A. (1992). *Farm Trees — The Basics*. Greening Australia, Canberra.

other conservation issues

- Be aware of how your farming activities impact on your remnant vegetation. Drift and run-off from herbicide spraying and fertiliser applications from areas adjoining remnant bushland can seriously affect and degrade the 'health' of native bushland.
- Retain dead and living standing trees. Many of these contain hollows for birds and other tree dwelling animals. (See Note No 5 'Natural Tree Hollows')
- Fallen timber provides habitat for reptiles, invertebrates and other animals. If possible, firewood collection should occur in a designated area of your property only.

For more information on how the NSW National Parks and Wildlife Service can assist, contact the Conservation Partners Co-ordinator, Education and Community Programs National Parks and Wildlife Service, PO Box 1967, Hurstville NSW 1481
Phone: 02 9585 6040
conservation.partners@npws.nsw.gov.au
www.nationalparks.nsw.gov.au

Compiled by Louise Brodie
Photos: L Brodie, E Higginson.
Adapted from 'Save the Bush' Information Sheets Nos. 4 & 5, produced by NSW NPWS

Conservation Management Notes are published by the NSW National Parks and Wildlife Service, for the Conservation Partners Program.

The Conservation Partners Program aims to encourage and assist landholders who have formed or wish to form partnerships with the NSW National Parks and Wildlife Service to look after wildlife and habitat, native vegetation and cultural heritage.

