

Bush Monitoring

Before you start work on your patch it is wise to establish a monitoring system so that you can be sure that progress is being made and so that you can show others what you have achieved. It is often impossible for other people to imagine what a mess a restored site was before work commenced.

From doing some of the previous activities in this book you will have some data about the state of your patch. The following methods will enable you to record your progress in a definite and scientific way. They can also be used to find out if an area which is not getting any help is deteriorating.



Wildscore

This is an excellent way to keep watch on the quality of your bushland remnant.

- Visit your remnant for at least an hour.
- Keep this score-card, aiming to score up to, - or more than, ten points for each activity and at least 100 for your final total score.
- Subtract your un-natural score from your wildscore.
- Compare your remnant with your school ground, backyard, or local parks.

NATURAL SCORE**UNNATURAL SCORE****Can you find?**

1. At least one tree at least 10 metres tall (Add one point for each ex- 10
2. At least ten hollows, cracks or spots to shelter an animal larger 10
3. At least ten trees or shrubs between 1 and 10 metres tall. 10
4. At least ten different kinds of birds in a ten minute period. (Add one 10
5. At least 10 percent solid bark, twig, or leaf cover on the ground 10
6. At least ten shrubs under one metre 10
7. At least ten different types of flowering plants such as trees, shrubs creepers, herbs, etc. 10
8. At least ten animals crossing at ten metre line over ten minutes. (birds, butterflies, etc.) 10
9. At least ten different signs of animal life (droppings, scratches, tracks, skulls, cocoons, feathers, fur, bur- 10
10. A total of ten different kinds of animals in ten square metres of bush litter, (worms, centipedes, beetles, ants, springtails, snails, 10

There are many things that subtract

A. Blackberry, gorse, boneseed, willows, privet, lantana, ivy, thistles, broom, watsonia.

B. Dog, cat, horse, cow, rat, European wasp, starling, mynah, sparrow, goldfinch, bulbul, turtle-dove, or any other introduced animal. (Score 1 for each

C. Presence of rubbish like cans, bottles, cartons, or car bodies.

D. A manufactured structure like a road, bridge, pipe, or house, but not a fence.

NATURAL SCORE =

Natural Score – Unnatural Score = Total

If your score is less than 90 you have work to do.

Photo point

Find at least five places in your patch where regular photographs will show interesting changes, or where you plan to undertake major work. There are two kinds of changes to look for:

1. Seasonal change

Many plants look quite different at different times of the year. Some may be in flower or seed: trees may lose their bark. Others, like annual grasses and herbs may only grow during warmer times of the year.

2. Developmental change

Plants grow older and new plants spring up or are planted, rubbish is left or cleaned up, weeds grow or are removed. Buildings and fences are created or destroyed.

Photos of the same place in different seasons of the same year and six years later. How many changes can you see?



February 1988



October 1988



August 1994

These changes can all be recorded with photographs. It is a good idea to put a permanent marker at the spot where the photographs are to be taken, and to use a compass bearing each time so that the photo is of exactly the same spot. A hollow pipe driven into the ground can be used to support a camera stand or table whenever time lapse photographs are taken.

Make sure that the pipe is covered at other times so that small animals are not trapped in it.

Photographs should be taken at regular intervals, dated, and kept in an album. Blow ups of them could be made for displays, and copies used to accompany articles in news sheets or school newsletters.

Did you know?

Lists of bird, mammal and plant species can be used to keep track of the health of your area. Generally the more native species present, the healthier an area is. Plant species can be very difficult to identify and samples, preferably in flower or seed can simply be photographed and numbered.

Preparing a revegetation project

Where most of the native vegetation in an area has been cleared, the size, shape, and connections between remnant patches are very important for the long-term survival of the animal and plant species in them. Many factors such as predators and weeds invade from the cleared areas that surround remnants so the 'surface area', that is, the area in contact with cleared land, is important, the less area exposed, the better. Corridors of native vegetation, such as those along roadsides, railway lines, watercourses and farm shelter belts help to connect populations, increasing genetic diversity and allowing populations to re-enter areas where they would otherwise have become locally extinct after bushfires or other disasters.

Planting strategies can have maximum benefit if carefully planned.

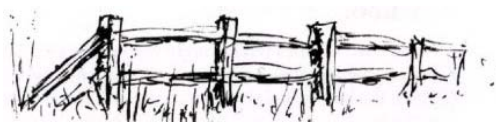
If no natural corridors exist, landowners and managers or community groups can plant corridors of local native species to connect remnants and fill in spaces between patches, or expand remnant areas.

Corridors can be used to link isolated patches to larger areas of bush, including National Parks. Such plantings will help conserve plants and animals should any single patch be damaged.

Revegetation should always be carefully planned.

Fencing

Even after decades of grazing by livestock, a surprisingly diverse collection of native plants may grow from seed stored in the soil if livestock, rabbits and weeds are excluded. Temporary or permanent fencing will assist an area of natural bushland to regenerate and protect new plantings.



Revegetation plan

Once you have worked out the type of revegetation that you are going to undertake you will need to work out a practical approach to the task. A written step by step vegetation plan should be made.

You should:

- Gain permission from land manager/owner
- Determine a list of priorities
- Identify the resources available and the people in the community who can help.
- Determine ways that you can reduce the cost of the project through volunteers, sponsors, propagation, etc.
- Develop a long term plan with a timeline, tasks, maintenance requirements and accountability.
- Produce detailed plans for the site, including chosen species and timing of the project.
- Include a budget and identify income sources
- Develop a work plan and identify who will do the work
- Include a potting mix and a mulch that will not introduce a disease into your area.

Once protected, remnant vegetation usually requires active management based on sound ecological principles and practises to protect it from degradation.

Discuss the difficulties in effectively maintaining plants throughout revegetation and make value decision concerning environmental practices.



Corridors

A green web

Individuals and groups throughout Australia are growing corridors of native trees, shrubs and understorey plants to form a network of native vegetation – a 'green web' – across their town and their part of the countryside. Greening Australia is actively encouraging and coordinating the development of vegetation corridors through the National Corridors of Green Program. The first Corridor of Green is being developed along the 2500 kilometres of the River Murray.

On farms, green webs can be included in the whole-farm plan to provide shade and shelter, conserve soil, and encourage native mammals and birds which control pests. Farmers often fence off natural vegetation and remnant farm trees, and plant trees, shrubs and groundcover plants.

Corridors can be established by planting native trees, shrubs and ground-layer plants along:

- rivers, creeks and drainage lines
- ridge tops
- fence lines
- areas of low agricultural productivity
- zones of ground water intake
- difficult to manage areas
- eroded and erosion-prone areas
- disused road and rail reserves.

Wildlife can use corridors of native trees and understorey as:

- places to find food, shelter and nesting sites.
- ribbons of vegetation for travel (many native wildlife species avoid crossing wide cleared areas).
- part of a larger area of their habitat.
- their whole habitat in the case of some small species.

Corridors along roads often connect remnant patches,
Urban areas can also be valuable parts of a

national green web. In towns and suburbs, a green web can be developed from the corridors and patches of native vegetation found in house gardens and parks, and on roadsides and forested hills. Native plants can make towns and cities, more pleasant to



live in by providing colour, softening built landscapes, and improving recreation and leisure activities. Native plants can be used in parks and along roads to attract native birds and other animals, and protect the natural ecosystems against threats such as erosion.

Guidelines for establishing corridors

A network of wooded corridors of native vegetation needs to be planned carefully. Consideration must be given to such aspects as the location, the width, the mixture of species to be grown, the establishment methods to be used, and groundwater and surface water features. The aim is to have the right mixture of plants grown in the right places for the right reasons and using the right methods.

Ideally, the denser and wider a corridor is between otherwise isolated areas of bushland, the better and more diverse it can be as habitat and as a corridor. Corridor width is often a compromise influenced by such factors as what land is available, establishment and maintenance costs, and how much time the growers have for the project.

A corridor that is too narrow can easily develop gaps and holes as individual trees and shrubs die, and is also more vulnerable to weed invasion and wind disturbance. However, a narrow corridor is usually better than

Schoolground bush revegetation projects

Even if the garden at your school already has many native plants, you could take this a step further by planting an area with locally indigenous plants. You may have already found that some native plants are no longer abundant in your area. Identify which of these plants you may be able to grow from seed or obtain as seedlings from nurseries. There are a number of plant nurseries which specialise in indigenous plants, and some plant nurseries also stock locally indigenous species. You may, however, wish to grow your indigenous plants from seed collected from plants in your local bushland. In fact you may have to do this for the indigenous plants that are not available from nurseries. Before collecting seed, obtain appropriate information, check with your state government conservation department for any regulations, and Greening Australia for advice.

Your revegetation project could simply be a garden bed of local species, but it can be even more effective if the plants are chosen and grouped to reflect the structure of the natural plant communities in which they occur in their bush environment. Recreate the structure of your local plant community by planting trees and understorey species such as tall shrubs, small shrubs, ground layer plants and grasses, as appropriate, to simulate your local bushland community's structure.

If your school's garden beds have established trees which provide the canopy of a simulated open forest or woodland plant community, then plan and plant a native grass or heath understorey. If smaller shrubs suggest an open heathland, then add local heathland plants to the garden bed. If there is a pond, then create a miniature wetland by planting rushes and sedges around it. All of these habitats will eventually attract wildlife to them.

And here are some more ideas:

Indigenous Forest

Planting the local species of trees, shrubs, herbs and grasses to recreate the original forest, before settlement.

Wild corners

Planting corners of the School ground with indigenous or native plants to develop an environment that encourages wildlife.

Wildlife Corridor

Linking Areas of habitat with a corridor of vegetation, allowing many animals to move between areas.

Environmental playground

Planting of trees and shrubs to form interactive play areas where children can safely run, hide, explore, have private space and cubby holes.

Nesting boxes

Birds, bats and possums will use nestboxes. The nest boxes must be sturdy and not damage the tree when mounted.

Sensory Garden

A range of fragrant plants and plants that feel or look unusual.

Butterfly garden

Appropriate native plants will attract some butterflies to feed on nectar and other plants will encourage them to lay their eggs. When the eggs hatch, the caterpillars will feed on the host plant.

Bird attracting plants

An appropriate combination of locally indigenous plants will attract birds to feed, escape dangers, rest, roost and nest.

Arboretum

A combination of locally indigenous plants grown together to demonstrate the diversity of the local plant life.

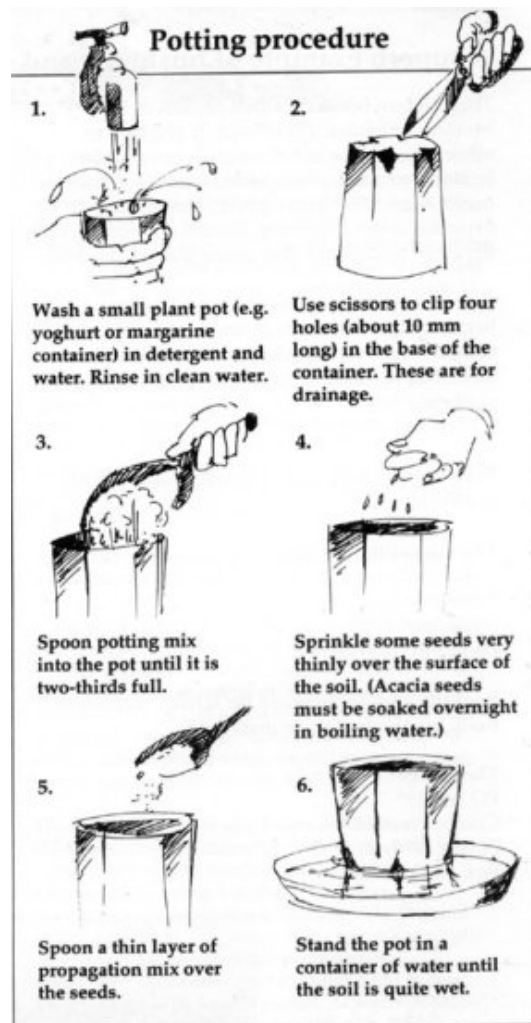
Choosing the right plants

If collecting seed from indigenous plants make sure that you have permission to collect the seed.

Permits are required for collecting on public land, for some species, on private land also. Ring your State national parks service or herbarium. Do not damage the area by trampling the understorey vegetation. Do not damage plants by pruning far more than needed, or breaking branches. Do not take unskilled school groups to sensitive areas such as stream banks.

Try to get help in seed collection from a specialist – a person who knows which plants are easy to grow from seeds and which are rare plants whose seeds should not be collected. Seed collecting has been recognised as a potential threat to the long-term survival of our bushland.

Once collected, every attempt should be made to propagate the seed successfully, otherwise valuable native seed resources will be wasted. Seek help with germination techniques if you are unskilled in this area.



Potting mixes

Any of the following are suitable.

80% pine bark, 20% sand, or
1:1 Mixture of river sand and loamy soil
Or 75% medium grade river sand, 25% compost

Propagation mix (to cover seeds)
Crushed granite or

Caring for your seedlings

Stand your pot with seeds in a margarine container. While the seeds are germinating and later when the seedlings are small, water the soil from below by pouring water into the margarine container. When the seedlings are well established, you can water them carefully from above.

Once a week a little complete water-based fertiliser can be added to the water but do not over fertilise.

Keep your pot indoors in a warm sheltered place. When the seedlings have started to grow, thin them out leaving only the tallest plant.

When the remaining seedling has grown to a height of about 10-15cm, repot it to a larger pot. Leave indoors for a few more weeks, then place it outside to adjust to