



WEED MANAGEMENT

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NATIVE GRASSLAND AND GRASSY WOODLANDS

SUMMARY

- Most weeds in native grasslands and grassy woodlands are environmental weeds that compete with native species for resources.
- Soil disturbance is the major factor that encourages weeds to grow.
- Careful management practices can reduce or prevent weed establishment and spread.
- Some weeds have more impact on the health of grassy communities than others. A site assessment will help determine priorities for control.
- Weed control can involve several different techniques, and follow-up revegetation with native plants is useful for large treated patches.

WHAT IS A WEED?

One formal definition of a weed is “a plant that has the potential to have a detrimental effect on economic, social or conservation values”. But more simply, weeds can be described as “plants growing where they are not wanted”. Knowing which plants are not wanted in your grassland or grassy woodland and which ones to control is an important aspect of management.

Many of the weeds that invade remnant native grasslands and grassy woodlands are environmental weeds rather than declared noxious weeds. Most weeds are exotic species introduced from overseas, but some can be Australian native species that do not belong at a particular site. Many exotic grasses that have some value in grazing pastures are considered nuisance weeds in remnant native grassy communities being managed for conservation purposes.

All weeds compete with indigenous plants for space, moisture, nutrients, and light, but some weeds have little impact on the overall health and function of the community.

Others have a dramatic impact, with the ability to spread rapidly and cause damage. A survey and assessment of your remnant will help determine which weeds are a priority for control.

IS IT A WEED OR NOT?

It is not always easy to tell which plant is a weed, and indigenous plants have often been mistaken as weeds and killed. Some useful identification books are listed at the back of this brochure. If you need professional assistance to identify a plant, press a sample between sheets of paper or take some detailed photographs. Include any flowers or seeds if possible, and some of the stem and leaves. Note the size of the plant, the habitat it was growing in, and the date collected. It is a good idea to put the fresh sample in a bag to carry from the site so seeds are not spread to another area.

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HOW ARE WEEDS SPREAD?

Weed seeds can be introduced to a site in many ways including:

- Transportation on machinery or equipment.
- Spreading contaminated fodder.
- Carried on the coats of animals and clothing of people.
- Movement of soil, gravel and other materials.
- Movement of water or blown in the wind.

Many activities such as heavy grazing, trampling, cultivation, ploughing, use of heavy vehicles, and removal of vegetation, disturb the soil and provide good conditions for weeds to establish. Grasslands and grassy woodlands in good condition usually have a crust of lichens, mosses and algae over bare soil patches. This soil crust helps prevent weed seeds from germinating, so it is important not to break it up.

Additional nutrients added to the soil in fertilizers and animal manure, and water runoff from earthworks enable the weeds to grow strongly and crowd out native plants. Stock camps increase soil fertility and are a source of weeds.

HIGH THREAT WEEDS OF GRASSY COMMUNITIES

Many weeds are very aggressive and once established will quickly invade native grasslands and grassy woodlands. These high threat weeds are a priority for control. Some common high threat weeds in grassy communities are:

- Phalaris
- Cocksfoot
- Serrated Tussock
- Chilean Needle-grass and other introduced needle-grasses
- Sweet Vernal-grass
- Brown-top Bent
- Prairie Ground-cherry
- Galenia
- Spanish Artichoke and other thistles
- Woody weeds like African Boxthorn, Gorse, Briar Rose and Boneseed.

WAYS TO REDUCE THE IMPACT OF WEEDS

Understanding why a weed exists where it does in your grassland or grassy woodland helps you choose appropriate control methods and to change management practices that make the site unsuitable for weed growth. Some ways to reduce the impact of weeds are:

- Make sure vehicles, clothing and equipment are free of weed seeds before entering the remnant.
- Avoid disturbing soils or driving through the remnant especially during wet weather, as the fragile soil crust may be damaged and allow weeds to establish.
- Be careful with use of fertilizers as they can stimulate weed growth and change the composition of the grassy community.
- Avoid overgrazing the remnant and maintain a good ground cover.
- Don't slash or mow the remnant when weeds are seeding.
- Avoid feeding hay or grain to livestock within your good quality grassland or grassy woodland.
- Try to put livestock in a weed free area for a few days before moving them into the remnant.

BELOW: Sweet Vernal Grass is a difficult to control grassy weed



BELOW: Sprayed Serrated Tussock in a native grassland



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WEED CONTROL METHODS

Weeds can be controlled using mechanical, chemical, or biological methods as well as through careful land management practices.

- Mechanical methods are physical removal or suppression by hand or machine (e.g. pulling, cutting, digging, ring-barking, mulching).
- Chemical control involves the application of herbicides or other substances that kill the plants or inhibit their growth.
- Biological control agents that consume or weaken a plant, can be used for some weeds, often as part of a district control program.
- Burning, grazing, or changing land management practices can also be used to inhibit weed growth.

Effective control usually requires a combination of methods and repeated attempts over time. It is also useful to learn about the life cycles and growth habits of weeds to help you plan a control program.

- When there are only a few weeds present, they could be removed by hand with minimal soil disturbance.
- It is important to prevent seed development of annual plants that grow and run to seed in one year.
- Regular burning of grasslands tends to diminish the amount of weeds over time.
- Burning might not be suitable where seed stores of major problem weeds exist in the soil, unless you want to stimulate new weed growth for targeted herbicide application.
- Slashing or light grazing by stock before the weeds set seed can be useful in weedy patches if burning is not suitable.
- When slashing or grazing for weed control, try to avoid times when native species present are flowering or seeding.

Consider employing a contractor experienced in weed control in native vegetation. Because of their knowledge and access to equipment, it may be more economical for them to do the work than for you to do it yourself.

USING HERBICIDES SENSIBLY

Herbicides can be an effective and cost-efficient method of control when used carefully.

- Apply when the weeds are actively growing (typically early spring to early summer).
- After a long dry period, try waiting until rain has washed the dust off the leaves and the plants are growing again to get better results.
- Avoid spraying annuals after they have dropped their seeds, it is a waste of money.
- Weeds with corms or bulbs may grow back the following year from dormant bulbs that were not affected by the spray.
- Use the minimum amount of the correct chemical for the task. Some herbicides are for general use, while others are made to specifically target grasses, or broad-leaf herbs, or shrubs.
- Avoid impacts on non-target species by carefully spot-spraying or wick-wiping. If not used carefully, some herbicides can also kill the soil crust below the plant and increase the potential for more weeds to grow.
- Address isolated infestations first. Always work from the least degraded to the most degraded areas.

WHAT'S NEXT?

If you remove the weeds, what will replace them? In a remnant with relatively few weeds, native plants are likely to fill small gaps left. But if you have removed large patches of weeds, fill the gaps with what you want to grow there, otherwise more weeds will probably beat you to it. Plant seeds or seedlings of indigenous plant species into the bare areas. Make sure the seed has been collected locally.

Grasslands and grassy woodlands provide key habitat for fauna. It may be necessary to do the weed control works and revegetation in stages as some weeds provide nesting sites or a food supply for native animals.

Finally, regularly monitor sites where weed control and revegetation have been done to see what follow-up treatment might be needed.

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BELOW: Cape Tulip in a grassland



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DEFINITIONS

Biological control agent

A natural predator used by humans to control pest plants or animals.

Environmental weed

A plant (introduced or native to Australia) established outside its natural range, which adversely impacts on indigenous vegetation.

Exotic plant

A plant species introduced to Australia from overseas.

High threat weed

Weeds with the ability to out-compete and substantially reduce indigenous species.

Indigenous

A plant or animal species native to a particular location, not introduced.

Noxious weed

A weed listed under state or commonwealth legislation as requiring eradication or control in a particular region.

Soil crust

A variety of lichens, mosses, liverworts, algae, and fungi that form a crust with the uppermost layers of the soil.

Woody weed

Weeds with thickened, firm stems (trees or shrubs).



ABOVE: African Weed-orchid is an introduced weed

FURTHER READING AND RESOURCES

Williams, N. Morgan, J. Marshall, A. (2015) *A Land of Sweeping Plains: Managing and Restoring the native Grasslands of south-eastern Australia*.

VVP Conservation Management Network (CMN).

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Lunt, I. Barlow, T. Ross, J. (1998) *Plains Wandering: Exploring the Grassy Plains of South-Eastern Australia*.

McIntyre, S. Mclvor, J.G. Heard, K.M. (2002) *Managing and Conserving Grassy Woodlands*.

Farmilo B. J., Moxham. C (2018) *Linear Grasslands Reserves Monitoring – weed control program* Arthur Rylah Institute for Environmental Research. Heidelberg, Victoria.

Muyt, A. (2001) *Bush Invaders of South-East Australia*. R.G. & F.J. Richardson, Meredith, Victoria.

Richardson, F.J. Richardson, R.G. & Shepherd, R.C.H. (2006). *Weeds of the South-East: An Identification Guide for Australia*. R.G. & F.J. Richardson, Meredith, Victoria.

DO YOU KNOW

- Your legal responsibility for weed control?
- If the weed is declared in your catchment management authority area?
- Your responsibilities relating to the use of Agvet chemicals?
- If you require a permit to undertake weed control work?

Victorian Volcanic Plains Native Vegetation Management Guides are a joint initiative of: