



Developing a Weed Management Plan

Without an effective plan of attack, the task of controlling weeds can seem overwhelming. This Note provides a practical approach to help landholders determine what's achievable, where to start, and how to develop an ongoing strategy for managing environmental weeds on their property.

Why are weeds a problem?

Weeds cause serious damage to natural ecosystems, reduce primary industry productivity and profitability, and seriously limit the long-term sustainability of natural resources. Some weeds can increase the risk of fire, increase costs to infrastructure maintenance, reduce the amenity of recreation areas and directly contribute to the decline of some native wildlife. Some weeds also have serious effects on both human and animal health. Weeds have significant economic, environmental and social impacts. In Queensland alone it is estimated that weeds cost \$600 million every year.

What are environmental weeds?

Environmental weeds (as distinct from agricultural or garden weeds) invade native ecosystems and can threaten the survival of indigenous flora and fauna. They can smother vegetation, often out-competing native species and restricting natural regeneration over time. Without any control actions serious environmental weeds will continue to dominate and degrade natural areas.

Environmental weeds should be treated as a symptom of a problem not just the cause. Weed management is only one component of ecosystem management. Controlling the extent and spread of existing infestations and preventing new infestations should be the primary objectives of your weed management plan.

Reducing opportunities for environmental weed establishment

Weed invasion can be reduced by:

- Minimising disturbance to native vegetation and soils.
- Planting only local native species or plants that don't have the potential to become invasive (many local Councils have lists of known garden escapees and bushland invaders).
- Regularly monitoring bushland and restoration sites for weed infestations.
- Avoiding fertiliser use and run-off into areas of bushland as weeds favour these high nutrient loads.
- Cleaning vehicles, equipment and footwear that have been in contact with weeds to prevent weed seed transfer.
- Composting or disposing of garden waste appropriately as many environmental weeds were once ornamental and garden plants.



Transformer weeds such as Cat's Claw Creeper shown above (and its flower shown along the top of this page) can transform an ecosystem by destroying the structure and function of a natural ecosystem from canopy to ground level.

Creating a weed management plan

The outcomes of environmental weed management can be substantially improved by approaching the task with a plan. A well thought-out plan that takes a strategic approach can make weed management tasks easier, more achievable and can result in significant savings of time, effort and money.

Steps in developing a weed management plan

Step 1. Define your goals

Ask “What do I want to achieve by controlling weeds?”. Is it to encourage more wildlife? Is it to restore the vegetation to its original condition? Are there other goals such as reducing the fire risk in the zone closest to your home?

Step 2. Weed identification and prioritisation

Identify what weeds are present on your property. Often there will be multiple weeds to deal with so it is important

to assess the weeds and their likely level of impact. Some weeds may not warrant control in the short-term, while others may require urgent attention. Make a list of all your weeds; group them according to the priority for control (i.e. highest to lowest). Your Land for Wildlife Officer can assist you to identify and prioritise weeds.

Step 3. Map weed location and extent of infestations

Map the location and extent of weeds on an aerial map or a detailed property map. This will help to prioritise the different areas on your property for weed control. Also mark significant features on your map such as infrastructure, roads, boundaries, areas of remnant vegetation and waterways.



An aerial map of your property can easily be marked to show weed infestations and will assist in prioritising weed control actions.

Arial Yam is an emerging weed in SEQ and northern NSW. Photo by Sheldon Naive, Suburban and Environmental Weeds of South-East Queensland DVD.





There are custom-made tools available to help with manual control of woody weeds. Shown here is a shovel called 'Root Blade' designed to cut through the roots of weeds such as lantana and privet. Photo by Sue McGruer.

Step 4. Research the weeds

When does the weed set seed? How is the seed spread? Is it an annual or perennial? How does it respond to frost? Does it prefer full sun or shade? Gaining a better understanding of the target weed and its lifecycle means that you can exploit its weaknesses, reduce its potential to produce further seeds and control it at the most effective time. As part of your plan consider developing a 'weed calendar' that notes flowering and seeding times and the best times for controlling different weeds.

Step 5. Set priorities - what, where and when?

Remember your goal: is it to control a particular species of weed at all costs; or is it to restore a patch of bushland? Below are some useful questions that should assist in determining what a priority is and where to start.

- Is it a Class 1 or 2 Declared weed as defined by Queensland legislation (e.g. Groundsel Bush or Giant Rat's Tail Grass)? If so, you have a legal requirement to control any infestation on your property.
- Some weeds need to be targeted in a coordinated manner, check with your local Council to determine if there are any control programs occurring which may fit in with your priorities.
- What is the level of threat to native species and ecosystems on your property? How is it affecting the structure and composition of the area that it is invading? Is it directly affecting the survival of other species?
- Is it affecting infrastructure such as dams or fences?
- How fast is it spreading? What was its extent last year? Five years ago?
- Break your weed control sites up into small achievable stages, use physical features such as tracks and creeks to define boundaries.



Gas powered spray guns, or splatter guns, can very effectively apply herbicides in steep and difficult to access areas.

Step 6. Determine the best approach

Below are some guidelines to determine the best approach to controlling weeds on your property.

- What is causing the problem? Weeds are often a symptom of another problem such as nutrient input, inappropriate burning practices, disturbances, overgrazing or a nearby infestation source such as garden waste dumping.
- Can the same control method be applied to more than one weed?
- Weeds don't recognise property boundaries and effective control may require the cooperation of a number of landholders.
- What will be the impact of the weed removal? Is it on a stream bank with potential for erosion? Will it remove habitat for some species? How much follow up maintenance or additional rehabilitation of the site will be required?
- As a general rule, commence work from the least affected area, and as weeds are controlled, move into the more infested areas.
- Start at the top of the catchment and work down-stream for weeds in or along watercourses.
- Break your site up into small manageable stages.
- Hygiene is important - keep equipment clean and free from material which can spread weeds.
- Ensure that any mulch used is free of weed seeds.
- Match the control method to the life-cycle and habitat preferences of the weed.
- Document your control methods and assess the success.
- Talk to your local Land for Wildlife or Council Weeds Officer. Local active landholders can also be a good source of advice. Discuss your plans and work with your neighbours wherever possible.

Step 7. Tools for the job

The equipment you require will depend on the weed control technique used. For details on weed control techniques see *Land for Wildlife Note EW2 - Weed Control Methods*.

Weed control technique	Equipment required*
Manual/hand removal	Gloves, knife, trowel
Chipping/grubbing out	Shovel, hoe
Foliar/spot/splatter spraying	Hand-held pump backpack spray unit or splatter gun
Cut and paint	Saw, loppers or secateurs, sturdy herbicide container, paint brush or small spray bottle
Stem scraping	Knife or peeler and paint brush
Stem injection	Cordless drill or small axe and small herbicide container with narrow nozzle
Mechanical	Brushcutter, slasher, bobcat, tractor

*Appropriate safety clothing and equipment should be worn and used in all situations.

Step 8. Implementation

Setting realistic short-term goals will assist in maintaining motivation. Don't spread your efforts too thinly; it is generally best to control smaller areas of weeds in a series of stages. **Control of weeds is rarely achieved after one treatment**, it requires persistence! With smothering weeds such as lantana it is generally best to only control an area that you will have time and resources to manage the inevitable regrowth. With each control effort the level of weedy regrowth will decline.

Step 9. Monitoring

Regular monitoring of the site will detect any reinfestation while the problem is still small. It is also recommended that a photo-site is established at key locations so that you can record changes over time. Always take the photo from exactly the same spot, facing the same direction and at the same time of day. Before and after photos are most effective if they include

a permanent reference point in the photo such as a tree, rock or fence.

Step 10. Review and revise

Take time to review, reflect on, and revise your weed management plan. Is your management benefiting the ecosystem? Are you meeting the goals that you set in Step 1? Can you maintain the targeted area? Continue to review your strategy and refine your methods. The more weed control you do, the more you will learn in terms of what techniques best suit each situation. You will also get a feel for how much natural regeneration you can expect in different areas of your property. Don't be afraid to trial different methods and be prepared to adapt your weed management methods over time.

Step 11. Ongoing monitoring and maintenance

Stay vigilant, continue to monitor and keep an eye out for, and control, any reinfestations or new weed incursions. A lack of follow-up weed control is the most common reason why weed management projects fail.

Contacts and information

Your Land for Wildlife Officer.

Biosecurity Queensland www.dpi.qld.gov.au/4790.htm

Local Council Pest and Weed Officers.

Queensland Herbarium (for hard to identify plants) (07) 3896 9326.

Land for Wildlife is a voluntary program that encourages and assists landholders to provide habitat for wildlife on their properties. For more information about Land for Wildlife South East Queensland, or to download *Land for Wildlife Notes* free of charge, visit www.lfwseq.com.au

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