

Restoring Biodiversity

The Real Cost of Annual Weeding



Three basic premises

Annual weeds alone cannot kill mature scrub, forest or woodland plant communities

Annual weed infestations are a symptom of degraded bushland

Annual weeds are primary colonising species



What weeds kill mature bushland?



What weeds can kill mature, scrub, forest or woodland plant communities?



The Vines and woody weed species:

- that can grow in undisturbed / chemically unaltered soils
- that have the capacity to set vast amounts of viable seeds or vegetative propagules.
- which compete with and overshadow seedling, juvenile or mature natives

What do we spend most of our bush regeneration budgets on?

ANNUAL WEEDING

Where do we use most of our herbicides?

On the control of annual weeds.

What native plants generally regenerate in areas where annual weeds dominate?

Native colonising species and ubiquitous natives that are already over represented in the disturbed bushland verges.

ie Native weeds that are a poor substitute for a healthy and diverse plant community.

eg *Bidens*, *Commelina*, *Imperata*, *Pteridium*, *Kennedia*, etc etc

Why do we prefer to have these native weeds?

Because we have been taught that:

- it is better to suppress regeneration of non-colonising species with these native weeds than exotic weeds
- a monoculture of a native weed eg *Commelina* is a worthwhile outcome for a bush regeneration program
- having a monoculture of native weeds is a necessary step in the establishment of a diverse and structurally complete plant community?

Good bush vs. weedy annuals

Have we convinced ourselves that a momentary flush of annual weeds is a greater threat to good bush than the vines and woody weeds that kill mature plant communities?

Perhaps MERV can provide us with a definitive answer as to where to spend our limited resources



Why are we fixated with annual weeding?

- They are obvious, fast growing and are easily recognised weeds.
- They have become unsightly and the general community (and more dangerously the weed-phobes among us) are offended by them.
- We are to blame for them, we are responsible for them, we knew that they would be a consequence of our primary weeding.
- They kill native seedling regeneration (most often native colonising species that inhabit degraded bushland)

Sustainable weeding: the bottom line

- We do not have enough money, or the public will, to keep all of our bushland remnants free of annual weeds
- We must save as much good bush as possible with the resources available



What is the Bradley Principle?

Work in good bush first



Sustainable weeding

Remove vines and woody weeds first...then consider removal of worst annual weeds

An integrated approach:

- Planning and education
- Catchment by catchment eradication
- Stronger noxious weed legislation
- Increased targeted weed programs
- Certificates of weed-free status when properties are sold
- Stop annual weeding where it is not sustainable



Example: *Ehrharta erecta*

Consider sites from which *Ehrharta* has been removed:

- **ALL** require maintenance weeding **FOREVER**
- *Ehrharta* cannot be eradicated
- Money better spent on complete eradication of woody and vine weeds

Native and exotic annual weeds are just **ONE** stage in the growth cycle of a stable community

Left to their own devices, native trees will continue to overshadow and out-compete native and exotic weeds

Annual Weed Maintenance Effort

How short is the break between annual weed maintenance runs?

FOUR WEEKS

- Four weeks enables annual weeds to mature and seed and replenish the soil seedbank that will last years.
- Totally unsustainable and irresponsible of land managers to even attempt it.

Why do we spend most of our valuable money pumping herbicides into disturbed sites killing native colonising species when our good bush is being lost to controllable weeds?

Basic principles: prioritising weed control

1. Care for endangered species and EECs
2. Control noxious weeds;
3. Keep good bush safe;
4. Undertake broadscale cost effective control of monocultures of destructive weeds from the top of the catchment;
5. Eradicate destructive weeds from weed infested bushland;
6. Encourage regeneration of natives in high, moderate and low quality bushland in sequence by the eradication of target weed species; and
7. Control weeds that can never be fully eradicated. ie *Ehrharta*.

NB: Native fauna must be provided with refugia.

How to revegetate?

- Do not plant fully structured communities at the outset of a revegetation program.
- Plant trees and shade out the annual weeds.
- Under-prune the trees and allow space for broadscale control of vine and woody and annual weed regrowth.
- Establish a stable canopy strata instead of spending resources on hand weeding and spraying around native grasses.
- Wait five years, ensure complete weed control and then reintroduce the other strata at a fraction of the cost.

Summary

- Don't let your obsession for weed-free bushland cloud your judgement.
- Eradicate the weeds that kill bushland before controlling the weeds that area symptomatic of degraded bushland ie. annual weeds .
- If that means delaying the comprehensive regeneration of bushland for a decade, to ensure eradication of destructive weeds, then so be it.
- Don't pollute the bush with herbicides and allow native canopy species to do the job for you.











