NEWSLETTER

NATIVE PLANT REGENERATION STUDY GROUP
VOL.2 NO.4 DATE 7/4/97 ISSN 1324-3934

Contents

NEXT EDITION

Articles will be due in by the 1/6/97

For a July newsletter

With a theme of

Your or your communities revegetation project

QUALITY ASSURANCE PROGRAM FOR REVEGETATION

To carry out this snap shot survey of how success full we are at revegetation I need to know the following -

- Soil Type
- Rainfall
- Species of plant
- What type of tree guard use if any
- If a herbicide was used if any fertiliser used if any
- Burning the area prior to planting
- What method of planting was used.
- Information on what the growing conditions were like e.g. was dry year on a north facing slope and I had 70% survival of species X and 20% survival of species Y
- And or any other relevant information that will be help full. In the third edition of this newsletter

All information will published hear in the newsletter of the Native Plant Regeneration Study Groups and other newsletters. and also a copy of the information will be sent to you for participating in the survey

Editorial

By now the plants that you started to grow in tubes in late Summer and early autumn have begun to grow at the moment it is time to put the feet up and allow the plants to grow in the tubes. Along with keeping up the regular maintenance by stoping insect damage and the inevitable weeds from growing with seedlings.

Well, as another year comes to the end. It will that time of year again where the membership fees are due. In some cases some members have got in early and payed up for the forth coming year ahead.

As you would of noticed in the contents the study groups financial statement is included. During this year I managed to use all the money that has been provided to me for the publication of the newsletters along with the running costs of the study group.

As you will be aware the next edition will based on your projects that you are involved with. It will interesting to hear about some of the projects along with some of the methods being deployed for doing the revegetation / regeneration work.

Cheers

Matt Pearson

BUSHLAND RESTORATION

ACTION FOR THE ENVIRONMENT BY THE COMMUNITY

Who

You
Community Groups
Local Government
Globally

Where

Anywhere you can find bushland to restore.

How

In eight easy steps:

1. Remove areas of introduced weeds that seem to be invading the bushland (working from the good healthy areas of bushland into the degraded/ poorer areas where possible)
2. Remove introduced shrubs (using hand tools if possible)
3. Remove large introduced weeds (trees etc.) using minimal disturbance (cut and swab method is best)
4. Remove isolated weeds (preferably by hand)
5. Collect indigenous seed from bushland and replant in weed free area (no more than 10% from any one plant)
6. Collect live and decaying plant material from indigenous plant species and place in weed free area. Scratch over weed free areas, using cultivator, scatter seed direct into soil (again consider timing)
7. Leave the intact areas of bushland undisturbed
8. Stand back, observe and enjoy

Fig. 1 — THE BUSHLAND RE

KEY

NATIVE

INTRODUCED

(How healthy

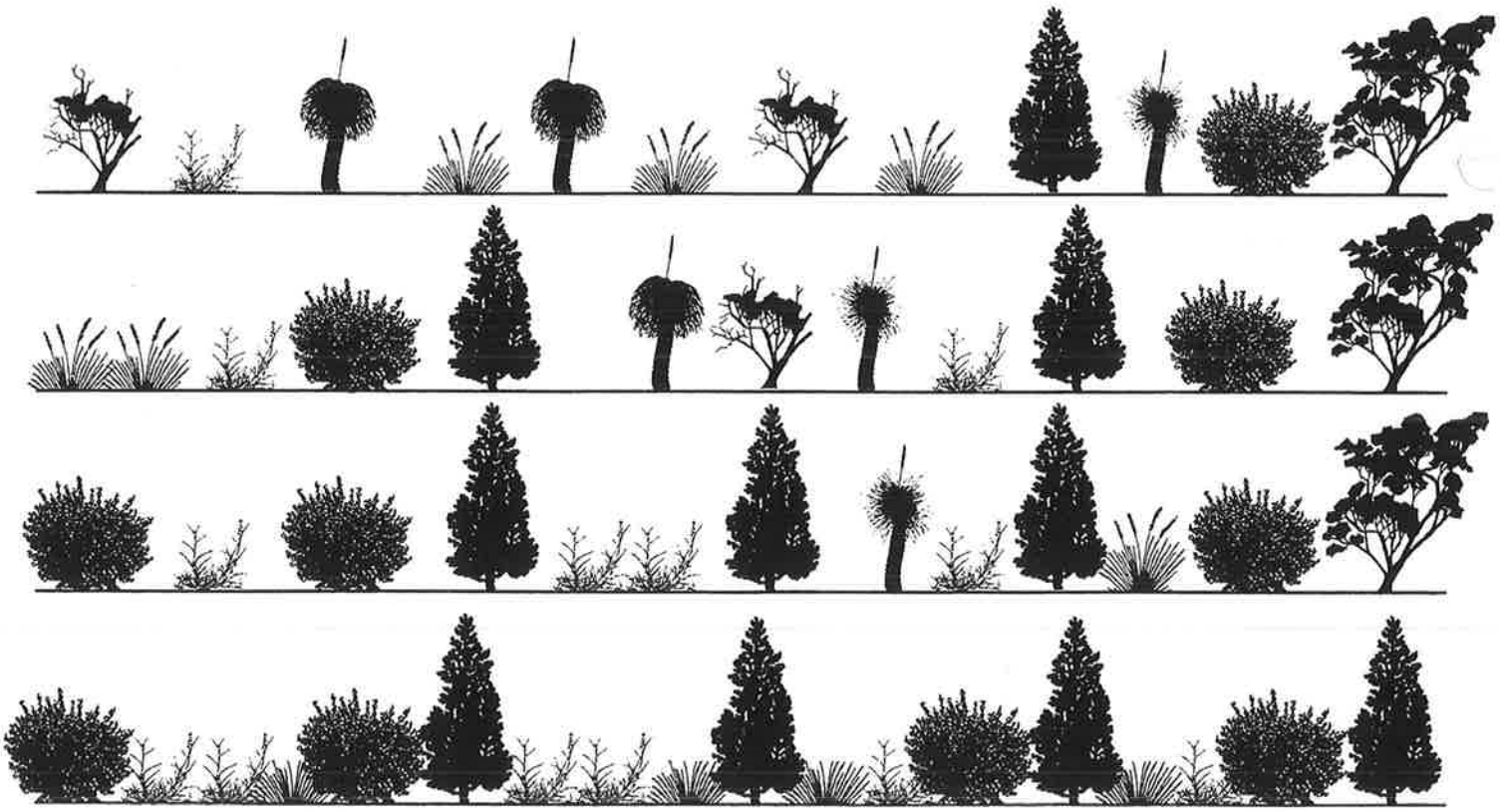
GOOD-HE

100% Native vegetation layers are present. No disturbed areas , good animal habitat, young and old trees regenerating. Moss, lichens, orchids, lillies and native grasses. Leaf and twig litter, macrophytic layer. No introduced species. **+4**

75% Native plant species, some disturbed areas. Vegetation layer not all present. Native animal habitat in evidence. Old trees, some moss, lichens, orchids, lillies, native grasses. 25% introduced species. **+3**

50% Native plant species, some young trees, disturbed areas, some native animal habitat in evidence. 50% introduced species **+2**

25% Native plants, emerging young trees. Large disturbed areas. Animal habitat in isolated areas. 75% introduced species **+1**



These plants (weeds) provide poor habitat for native animals

PO

STORATION SCALE

is your bush?)

EALTHY

These native plants provide excellent bushland habitat for our native animals

-1 **25% Introduced weeds, 75% native plants present, but declining in health, animal habitat still in evidence, isolated disturbed areas.**

-2 **50% Introduced weed cover, 50% native plants further declining in health, poor animal habitat, large disturbed areas.**

-3 **75% Introduced weed cover, 25% native species in isolation, disturbed areas increasing, isolated animal habitat.**

-4 **100% Introduced weed cover, no native species present, large areas of disturbance, few native animals live in these areas.**

OR

HOW TO USE THE SCALE

- The scale is designed to help you evaluate the health of your bushland/ roadside vegetation
- If your bushland/ roadside has native plant layers (see fig. 2) present with native animals/ birds your bush will score a +4
- If your bushland has few native plants, no animals but mostly exotic weeds your score will be a -4 (see fig. 1 inside)
- In between, the scale denotes how healthy/ good or how poor your bushland/ roadside vegetation is
- Think of the scale as measuring the health of your bushland/ roadside vegetation
- If your particular area of bush/ roadside did not score very highly you can improve your score by learning how to manage your bushland/ roadside vegetation
- Using the scale as a guide, and by following steps 1-8

* If you don't know if its a weed or a native <u>don't take it out</u>

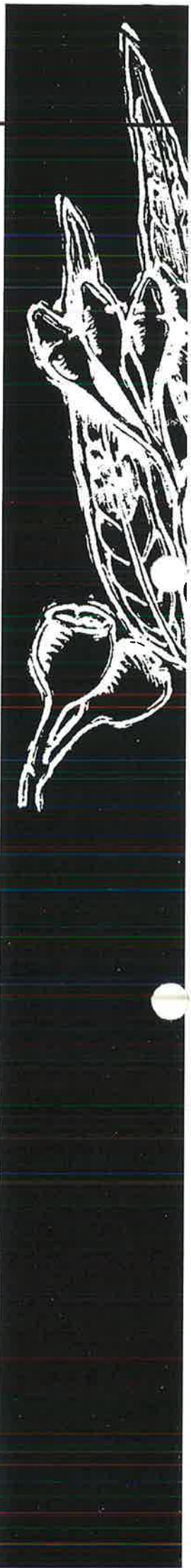
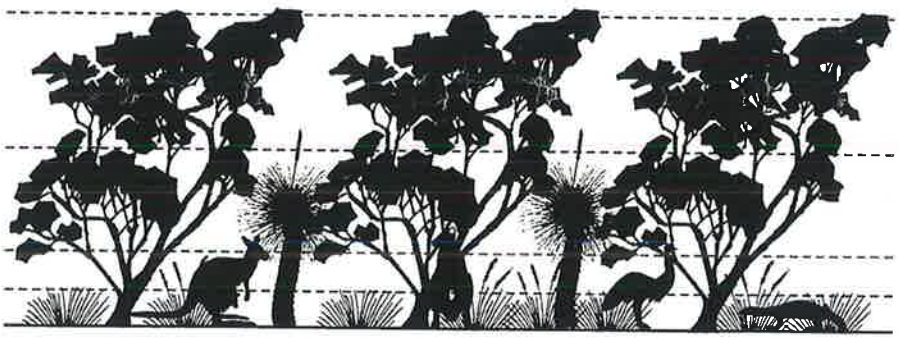


Fig. 2 **Diagram showing vegetation layers.**



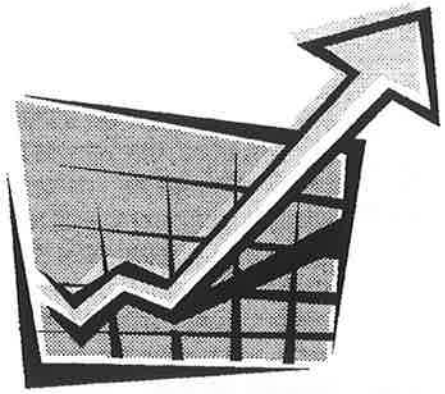
(Depending on vegetation type, not all vegetation layers will be present)

Prepared by
Nicola Keane
Mount Lofty Ranges
Conservation Group

Enquiries to
PO Box 70
Aldgate 5154

AUSTRALIAN NATURE CONSERVATION AGENCY
SAVE THE BUSH

Funded by
Save the Bush

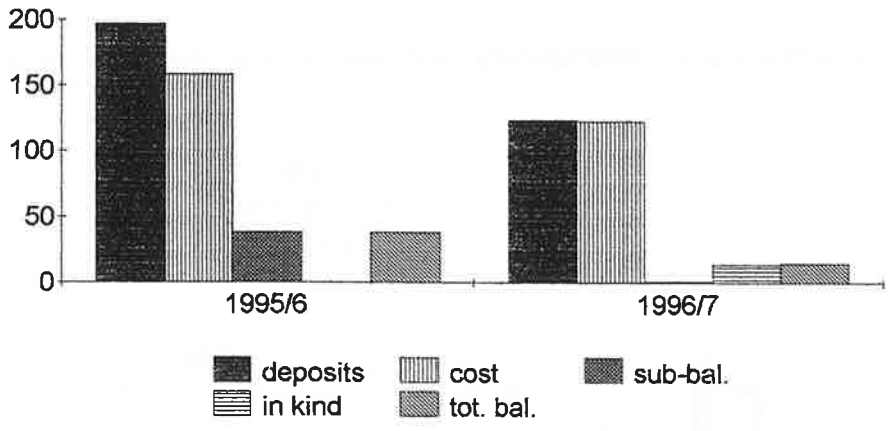


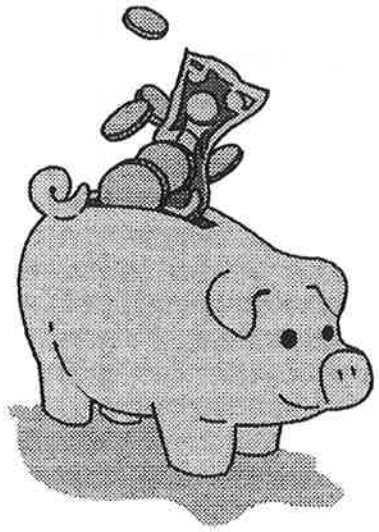
FINANCIAL STATEMENT OF THE

NATIVE PLANT REGENERATION STUDY GROUP

The 1996/7 financial year marks the second financial statement that the group has produced in the last two years. At the beginning of the financial year we had a surplus of $30.38. This was the residue from the previous year that was made up of a carry over of membership fees who payed in advance along with members who had not received their full quota of newsletters for the period that they were members of the study group. During this financial year the membership has remain reasonable stable with only a small carry over consisting of $14.50 being again made up of membership fees. Presently the membership fee are suitable enough for running the Study Group and they wont be rising in the near future. The income for the Study Group was $123.38 with the cost for running the Study Group coming to $122.61 In the 1996/7 we had an in kind contribution to the study group from two members in the form of stamps and enveloped for mailing newsletters. This has kept some of the cost down for the 1996/7 financial year.

Total Income & Expences
for the Nat. Plant Regen S.G.





One of the largest cost this financial year was the printing of the newsletters. I have change the printer that I use from one that was costing me $0.14 a page and to the printer that I am using now which charges only $0.08 a page. By doing it through a printer I do incur sale tax both at state and federal levels which increases the final copying job by 22%.

The 3rd volume of the newsletter will begin in August payment needs to be done by members from June through to August to be a financial member.

The fees for Study Group will remain at the current cost of $9.50 for the 1997/8 financial year but I could be changing them in the near future. Could you please indicate on the form below your preferred fee for the Native Plant Regeneration Study Group so that I can set the fee before the beginning of a financial year. For in case I need to increase the membership fee for 1998/9

Membership Fee Survey

Indication of preferred membership fee for the Native Plant Regeneration Study Group.

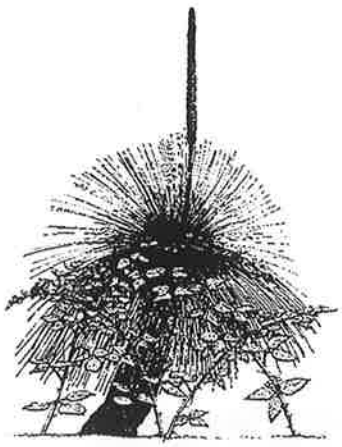
Please tick the appropriate box and please send the responses back to

P.O. Box 2089
Normanville
SA 5204

☐ Option A - $9.75 4 newsletter per year each being 20 pages

or

☐ Option B - $5.50 2 newsletters per year each being 20 pages long



SAVE THE BUSH from WEEDS

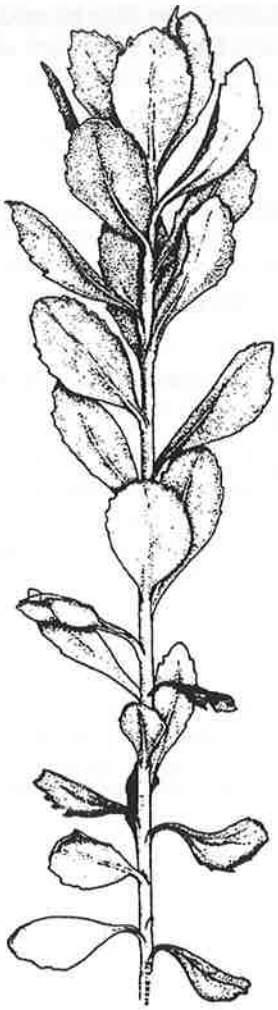
Boneseed - keeps coming up in the bush

By David Cooke, Botanist

Boneseed, *Chrysanthemoides monilifera*, was imported from South Africa as a garden ornamental because of its dense evergreen growth and yellow daisy-shaped flowers. But it produces berry-like clusters of seeds which are spread by birds and foxes, and is now a weed of bush including many conservation parks. It is very common in parts of the Mt Lofty Ranges, with other infestations on Yorke and Eyre Peninsulas, the south-east and the Riverland.

Boneseed can invade undisturbed bush, forming a dense canopy 1-2 m high under which few other plants can regenerate. It degrades native vegetation by excluding most native understorey species, forms a permanent shrub stratum and harbours rabbits. The seeds are long-lived and accumulate in the soil under the bushes. They germinate one by one over a period of many years, or all may germinate at once after a bushfire.

Boneseed is declared for the whole State. Owners of land are required to control plants growing on land they occupy and local control boards control infestations on road reserves.



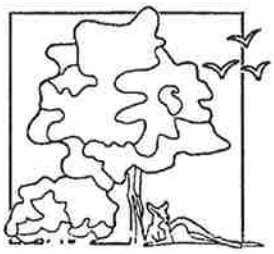
To prevent further cultivation, sale of the plant, its flowers or seed is prohibited.

Control programs have reduced the source of seed in many places, and continual removal of seedlings will slow the rate of spread. A leaf-feeding beetle is being gradually introduced as a biological control agent.

Illustrations: Dept of Agriculture, Tasmania

Produced by the
SA ANIMAL & PLANT CONTROL COMMISSION
GPO Box 1671, Adelaide 5001
With assistance from the
SAVE THE BUSH - REMNANT VEGETATION PROGRAM

For further information contact your local Animal and Plant Control Board or telephone 08 2264888



October 1991

Control of Boneseed in Bushland

Seedlings

Pull up seedlings by hand whenever they appear; they are shallow-rooted and plants up to 1 metre high will come out of the ground easily. As soon as plants are removed new seedlings appear, and the reserve of long-lived seed in the soil is only slowly used up.

After a fire, almost all the seed germinates at once and a patch can be cleaned of boneseed by spraying before native regeneration begins. Mix 360g/L glyphosate or 500g/L 2,4-D amine with water at 1:100 by volume and spot spray.

Mature bushes

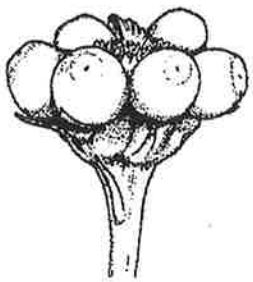
Cut down large bushes and immediately swab each stump with undiluted 2,4-D amine or glyphosate.

Bushes may also be spot-sprayed with glyphosate or 2,4-D amine at the same rates used for seedlings, but a repeat treatment will often be necesary to kill all the growing shoots. Large numbers of seedlings can be expected wherever the canopy of mature boneseed is removed.

HERBICIDES FOR CONTROL OF BONESEED IN BUSHLAND

Mixing rates for control of boneseed in bushland

Herbicide	Product Concentration	Mixing rate	Amount for 5 L sprayer
Ami-Weed 500 Selective Herbicide® Nufarm Amicide 500 Selective Herbicide®	500 g/L 2,4-D amine	10 ml/L water	50 ml
Comkil Non-residual Systemic Herbicide® Glypho Weedkiller (Chemspray)® Tumbleweed Weedkiller Concentrate® Wipeout Total Weedkiller® Zero Weedspray®	100 g/L glyphosate	36 ml/L water	180 ml
Glyphosate 360 Herbicide® Roundup Herbicide®	360 g/L glyphosate	10 ml/L water	50 ml
Glyphosate 450 Herbicide® Glyphosate CT Broadhectare Herbicide® Roundup CT Broadacre Herbicide®	450 g/L glyphosate	8 ml/L water	40 ml plus 5ml organo-silicon surfactant



Boneseed fruits

FACT SHEET

FS 1/94

WEED MANAGEMENT GUIDELINES

for management of remnant native vegetation

by Susan Bellette Save the Bush Community Grants Officer
Illustrations by Kate Marshall

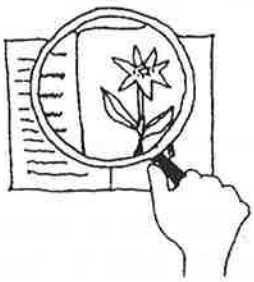
The purpose of this brochure is to give individuals and community groups guidance on how to approach the problem of weeds in bushland and what factors need to be considered. Some of the steps may require the advice of a good botanist be it a local amateur or a professional. In addition, a rabbit control program, where rabbits exist, should be undertaken with the weed control program to allow natural regeneration of native plants post weed removal.

STEP 1) KNOW YOUR WEEDS

What are they?

Ensure native plant species which may look like weeds are not also removed:

- identify the weed species:



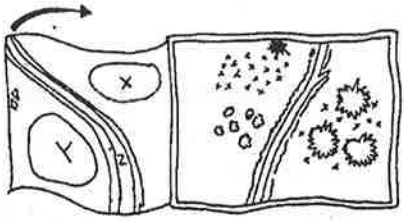
- take specimens of the plant which you think is a weed to the local pest control officer; your revegetation officer; landcare officer or environment and natural resource staff (formally environment and land management)

- form a community weed herbarium where identified species can be stored for future reference - in a local but central location such as the local council chambers or school /community library or with the local pest plant officer.

Where are they?

- survey the area of native vegetation to be restored to determine what the dominant or most invasive weeds are, their range and extent

- map the weeds' location and extent for example, on a transparent overlay of an aerial photo if available

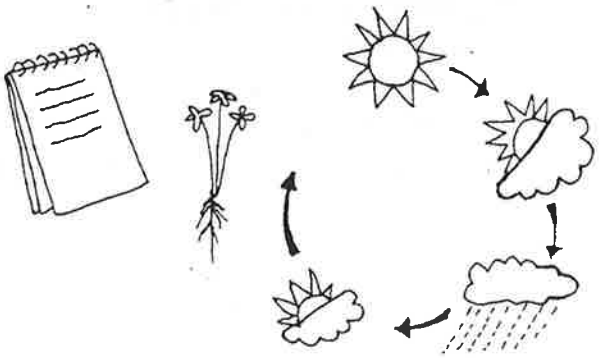


- record this data so that an action plan can be developed and weed control progress can be monitored over time.

When and how do they reproduce?

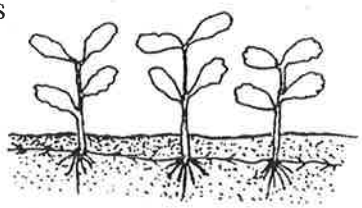
- monitor the area over the year to determine the weeds' seasonal responses or "behaviour"

- make notes of when each weed species flowers, sets seed and the mechanism of seed dispersal



Save the Bush
Natural Resources Group
Department of Environment and Natural Resources
PRIMARY INDUSTRIES SOUTH AUSTRALIA

- note which weeds reproduce vegetatively such as via sucker or underground tubers or runners

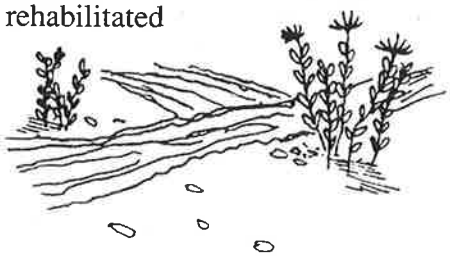


- also note if any particular bird or insect may be assisting the dispersal of weeds.

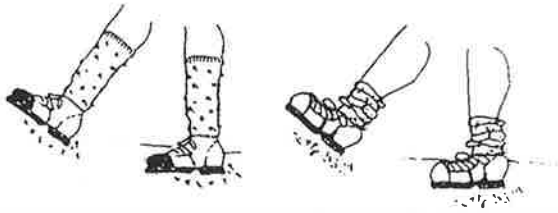
Where have they originated?

- identify the source of weed dispersal in the area

- is there a major weed seed source up-stream or up-wind of the area to be rehabilitated



- has machinery or some other form of human disturbance introduced the weeds?



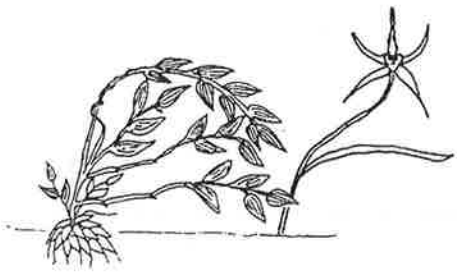
STEP 2) FORMULATE A WEED MANAGEMENT PLAN:

Take all the above factors into account to determine the integrated weed management strategy.

2.1 STRATEGY - where to start first

Areas of first priority should be:

- where an aggressive invading weed is just becoming established but can easily be controlled by one of the above methods



- where particular native species are low in number and are currently not reproducing, these require special attention to ensure they do not become locally extinct

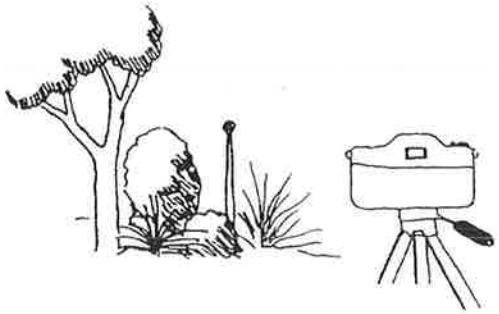
- where few weeds are present - start in the good areas first and work out from these areas. Remember to work at a rate which the native species are able to regenerate back into the weeded area. Also remember, when spraying with herbicides, that native ground covers may be present but hidden by the weed cover.

Look at ways of reducing the source of the weed.

This may involve slashing of a weed species as mentioned above but consider where it is coming from - can neighbours be persuaded to cooperate by reducing the weed seed sources? If a weed is being transported via a waterway, work must begin up stream.

Record and monitor weed control progress.

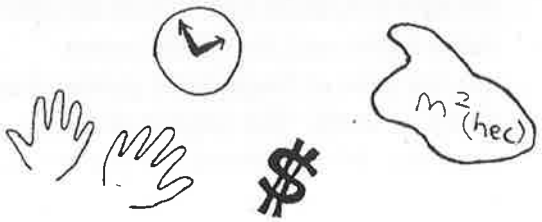
This enables methodology to be refined over time and is an encouragement to those who have worked so hard to see the difference. Photo points taken on a 6-12 monthly basis can record the slowest of progress and are therefore very rewarding. It is particularly useful to have a set area within the photopoint view where plant species are identified when each photo is taken . This will enable more subtle changes in understorey vegetation to be discovered.



Plan all weed strategies for the year and place on a calender.

This enables the group to keep track of what needs to be done when and resources can then be allocated as appropriate.

Prevent further infestation and keep the weeds from extending their range by choosing methods which are realistic and which take into account the time, labour and finances available. A range of weed control methods may be required.



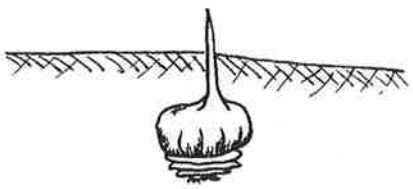
2.2 SELECT THE METHODS OF CONTROL

In **choosing a method** one must consider:

- timing:- the application of any control method must correspond to your observations of the weed and its growth patterns. When burning or applying herbicides, whether conditions also need to be considered. For example avoid spray drift by spraying when it is not windy and take note of fire restrictions before burning.

- the impact the method will have on non target species;

- the type of root system the weed has;



- whether it is a broad leaf or a grassy weed;

- whether it is perennial or an annual;

- whether it is woody or not;

- how broadly the weed is distributed;

- how close it is in contact with native species?

Some methods of weed control:

- cut and swab - used for woody weeds
  cut these down to their main stems at ground level and carefully paint the exposed cut stem with herbicide such as garlon and diesel; with very large stumps herbicide penetration is speeded by cutting down the outer bark layers of the stump and painting these areas as well.

- hand-pulling used for annuals or young woody weeds

  it is important to prevent excessive soil disturbance with this method to prevent further weed invasion and germination. This can be achieved by gently stamping down the ground after having pulled the weed or by placing one foot on either side of the weed on pulling.

- hand-painting herbicide used for weeds which are very close to or tangled with native species

  small paint brushes enable very selective application in addition the natives' root system is not disturbed.

- slashing or 'spray topping' these techniques may be used as temporary measures to reduce or prevent weed seed set.

  This will prevent weeds from reproducing until more permanent measures can be taken especially where the weed is broad in range.

  These methods are usually undertaken a little before the weed sets seed therefore, not only does this prevent a new crop of weeds but it is at a time when the weed has just spent much of its energy to develop fruit thus what remains after slashing will be weak

- direct seeding this is useful where there is no source of native seed close by to naturally regenerate after initial weed control, the native seedlings can be left to grow in the open space rather than having another weed take over.

Collection of native plant seed which originally occurred in the area can be spread over a slightly cultivated patch of ground. The area will need pre-sowing weed control if a heavy cover of weeds is present Seed may also need to be pre-treated. It is important to ensure that the direct seeding is done prior to expected good rains. Follow up weed control may be required to prevent seedling rot from new weed growth over the next rainy season. This will depend on the type of weeds present.

- natural regeneration this can be one of the best methods of long term weed management where there is natural viable seed sources nearby.

The vegetation's resilience to weed infestation will be increased if weeds which are competing with the native seedling are kept in control; areas where the native seed fall-out naturally occurs is an example of where weed control should be used.

- mulching this may be useful for use around particular native species under threat of weed invasion but will usually only be used on a small scale.

Heavy mulching will inhibit native plant regeneration as it does weed regeneration therefore it should only be a temporary measure until natural mulch builds up.

- fire this is a controversial method as it is very site and species specific, thus many factors must be known before it is used.

Fire may increase the number of some weeds just as it may increase the number of some native species. For example the weed Gorse will increase in number after fire in the same way that the native Acacias will. There are also many native species which cannot tolerate fires of frequencies greater than every 25 years. The impact on fauna must also be considered. As the area (m^2) of native vegetation is reduced there is less resource available for the animals.

Burning of areas containing native vegetation requires permission from the Native Vegetation Council.

FURTHER READING:

Bradley J. (1988) Bringing back the bush: the Bradley method of bush regeneration, Landsdowne Press, Sydney.

Department of Primary Industries S.A. (1994), Natural Regeneration Fact sheet.

Department of Primary Industries S.A. Hand direct seeding of native plants Fact sheet

Hussey B.M.J and K.J. Wallace (1993) Managing Your Bushland C.A.L.M. W.A.

Robertson Meg, (1994) Stop Bushland Weeds, Nature Conservation Society.

S.A. Animal and Plant Control Commission (1991) Save the Bush from Weeds - kit.

Managing Weeds for Landcare (1994) a workshop on protecting land from invading weeds, 12th March 1994, Animal and Plant Control Commission.