

An integrated weed management strategy for Serpentine-Jarrahdale

Brett Dunn

Serpentine-Jarrahdale Shire, 6 Paterson Street, Mundijong, Western Australia 6123, Australia
bdunn@iinet.net.au

Summary The Serpentine-Jarrahdale Integrated Weed Management Strategy (IWMS) is a partnership project between the Shire, Department of Agriculture and the Serpentine-Jarrahdale Community Landcare Centre and concerns the control of both agricultural and environmental weeds. Continued pressure from the community for action on weeds resulted in the Strategy's inception, which has been underway for over three years.

The IWMS combines a strategic and community based approach with an enforcement role (when required) under the Agriculture and Related Resources Protection Act (1976). The primary functions of the Strategy are:

- Raising community awareness;
- Gathering information;
- Regulation;
- Weed control on Council land; and
- To support community groups and Landcare.

As the IWMS has a significant community based component, it is difficult to present the quantitative and qualitative success of some of these functions in a scientific format. State Government, Local Government and the community working together to control weeds is critical in integrated weed management. Cooperation is the key.

Keywords Integrated, weeds, community.

INTRODUCTION

Weeds (especially Declared Plants) have become an increasingly difficult issue in the Serpentine-Jarrahdale region of Western Australia over the past 8–10 years. This region is located 40 km South East of Perth, bounded by urban Shires to the North and West, and rural Shires to the East and South. Until recently, the lack of government assistance in Serpentine-Jarrahdale left the weed problem virtually unattended. Without sufficient resources from Local and State Government (time, money and personnel) required to adopt a strategic approach, the issue of weeds became very heated amongst local landholders. The Community Landcare Centre, the Shire and the Department of Agriculture was bombarded with requests for action for control of weeds both on private and Council land. It was this persistence of the community in Serpentine-Jarrahdale that triggered the formation of the IWMS as well as the willingness of Council, LCDC and Department of

Agriculture to address this issue. With around 3,500 properties in the Serpentine-Jarrahdale region, controlling the spread of weeds is a lengthy process for which long-term goals must be set.

The integration of 'regulation', awareness raising and Landcare/Bushcare has been a critical factor in the success of this program. The involvement of Landcare in the IWMS has assisted in emphasising to the community that there is little point to removing weeds if you don't replace it with something that will suppress their growth in the long-term.

Serpentine-Jarrahdale's community is a combination of rural and urban communities. Within this mix comes a difference in awareness and attitudes towards weeds, often conflicting. Primary producers who rely on pastures for production are often complaining of neighbours who are not practising weed control. Also, the increasing numbers of small block owners in the Shire are often not aware of the issue, hence the need for education. The IWMS aims to create partnerships between landholders and encourage them to form groups to combat weeds together.

MATERIALS AND METHODS

Implementation of the strategy The three stakeholders of the Serpentine-Jarrahdale IWMS (the Shire, Department of Agriculture and Serpentine-Jarrahdale Community Landcare Centre) implemented the program in late 1999. The Department of Agriculture contributes \$25,000 per annum to the Strategy for the provision of a District Officer (Weed Strategy Officer) to address compliance of landholders to the Agriculture and Related Resources Protection Act (1976) in relation to Declared Plants. In addition the Shire of Serpentine-Jarrahdale contributes \$50,000 per annum to use on raising community awareness and weed control on Council land and landcare/bushcare rehabilitation sites. The project is delivered through the Serpentine-Jarrahdale Community Landcare Centre; maximising community access to weed related information for all natural resource management issues.

Functions of the strategy Through the appointment of the Weed Strategy Officer to facilitate the project, the IWMS aimed to control the spread of weeds in Serpentine-Jarrahdale by:

1. Raising community awareness A large contribution to the weed problem in Serpentine-Jarrahdale was the fact that many landholders were not aware of the issue. The IWMS functions to highlight the problem of weeds to the community as well as legal responsibilities in regards to Declared Plants. Problem Declared Plants in Serpentine-Jarrahdale consisted of both summer weeds (cottonbush, apple of Sodom and blackberry) and winter weeds (Paterson's curse, Cape tulip and arum lily). At the beginning of each of these seasons (twice a year) every household in the Shire receives a letter warning of the aforementioned weeds and providing details of legal responsibilities and control techniques. Displays are set up at local community functions and the local newspapers are also useful in raising awareness amongst landholders through advertisements and articles.

2. Gathering information Good information and advice for the control of weeds is essential (Lyons and Del Marco 1999). A lot of knowledge had been lost before the implementation of this strategy. Information includes methods of weed control, suitable chemicals and available contractors. The Serpentine-Jarrahdale Community Landcare Centre, LCDC and Environmental Officer have gathered expertise over the years and the Weed Strategy Officer functions as a means of providing this information to the community.

In planning a strategic approach to managing Declared Plants in Serpentine-Jarrahdale, one must know where they are. Through a combination of information gathered from APB inspections and local knowledge from landholders, the Weed Strategy Officer has been mapping infestations in the Shire so as to identify the extent of problem areas.

3. Regulation The Weed Strategy Officer position is partially funded by the Department of Agriculture to carry out the duties of an APB Officer in regards to Declared Plants. Under the Agriculture and Related Resources Protection Act (1976) an APB Officer has the authority to enter any property (without prior consent from the landholder) when conducting inspections for Declared Plants. Therefore the Weed Strategy Officer is gazetted under the Act with the authority to enter both private and government properties to ensure control standards for Declared Plants are being met. Enforcement can be necessary when landholders are not controlling Declared Plants on their property and have ignored previous requests for action. These inspections also function as a tool for mapping and awareness raising, through one-to-one interaction with the landholder.

4. Weed control on Council land The Council puts \$50,000 into weed control each year with the emphasis being on Declared Plants on roadsides and reserves, and landcare projects. The Weed Strategy Officer is responsible for conducting and managing these weed control activities. It is important to control noxious weeds on Council land as experience has shown landholders do not feel motivated to make an effort if the Shire is not doing the same.

5. Support community groups and Landcare The Serpentine-Jarrahdale IWMS assists local groups participating in Landcare activities on Council land. Generally these groups often receive initial weed control on sites and assistance in the maintenance of these areas whilst sites establish. Also, the Strategy encourages the formation of Weed Action Groups. When a small group of landholders are committed to an action plan, Council will assist by controlling weeds on its land (Lyons and Del Marco 1999). The Serpentine-Jarrahdale Community Landcare Centre also has a 100 L spray unit and backpack spray units that can be used by community groups.

RESULTS AND DISCUSSION

Raising community awareness Before the implementation of the Serpentine-Jarrahdale IWMS a weed sub committee was formed through the LCDC and received funding from the Gordon Reid Foundation (Lotteries Commission) to produce and distribute a weed information pamphlet 'Weed It Out' to the entire Shire. This pamphlet was later updated and reproduced as part of the Strategy's ongoing education program to help the community help themselves. Other ways in which the issue of noxious weeds has been presented to the community include:

- Shire-wide mail outs twice a year (6000 letters a year).
- Two newspaper advertisements per year.
- Around four newspaper articles per year.
- Production of locally relevant 'infonotes'.
- Construction of contractor list.
- Weeds issue linked to community landcare projects and initiatives.
- Displays and information pamphlets made available at community events.
- Local schools visited during 'Weed Buster Week'.
- Weed information posters and pamphlets placed in all rural hardware stores in the Shire.

Of course it is difficult to quantitatively measure the effectiveness of raising community awareness about noxious weeds. A Shire survey of landholders would have proven useful in determining levels of weed

awareness and could be a future project to measure the success of the IWMS. With each mail out and/or article released to the community a barrage of inquiries will generally follow requesting information or clarification on the issue of weeds. We can only assume that providing households with two letters per year combined with raising awareness through newspaper articles, advertisements, pamphlets and displays that local landholders have sufficient warning of the issue of noxious weeds.

Information gathering Through the assistance of the Department of Agriculture over the three years of the Strategy the most up to date weed control information has been collected. From this, infonotes including information on plant biology, control techniques, legal responsibilities and spray contractors operating in the Shire, have been printed for problem weeds in Serpentine-Jarrahdale. The Community Landcare Centre functions as a delivery centre for these pamphlets.

After collecting information from local landholders and conducting inspections over a large percentage of the properties in the Shire a map has been created detailing properties inspected, Declared Plants present and the intensity of each infestation. The significance of this is that problem or potential problem areas for noxious weeds are easily identified thus inspection efforts become more accurately targeted and effective. Over time, with further mapping, the effectiveness of the IWMS in reducing the extent of weed infestations on private properties will be able to be observed.

Regulation The effectiveness of regulation under the Agriculture and Related Resources Protection Act (1976) is also difficult to quantitatively measure. It should be noted that any figures presented are representative of the Strategy in April 2002. Since the implementation of the IWMS 1200 inspections have been conducted on properties in Serpentine-Jarrahdale.

It is standard APB practice that landholders not sufficiently controlling Declared Plant infestations are issued a 'Work Agreement' notice requesting specified control methods take place. If no action is taken this request is followed by a document legally directing the landholder to take action on the weeds (though this stage is rarely reached). In all 190 Work Agreements have been issued over the three years of the IWMS. In almost all of these situations action was taken on these infestations after the notice was issued. From data available it was determined that 70% of property owners previously issued a Work Agreement would not require another notice the following season. This is encouraging as it indicates weed control becoming a planned strategy rather than a reactive task. Inevitably

some landholders will wait until a Work Agreement is issued before implementing control methods.

A deficiency of the Agriculture and Related Resources Protection Act (1976) is that it does not have jurisdiction over land owned by State (or Federal) Government agencies. In this case continued lobbying and negotiation is required to get results, however most agencies are cooperative. Some large government and non-government properties in Serpentine-Jarrahdale have implemented control plans of 2–5 years and even purchased their own spraying equipment.

Weed control on Council land The bulk of Council weed control in Serpentine-Jarrahdale occurs in early winter and early spring. With constant auditing Council weed control has become increasingly efficient over the past three years. Information collected over this period regarding the distribution of Declared Plants has enabled the Shire to address weed control as an annual, proactive program rather than a reactive task. An added advantage of the Serpentine-Jarrahdale IWMS is the combination of roles the Weed Strategy Officer has for both the Department of Agriculture and the Shire. The control of Declared Plants on Shire land is a priority for both organisations and is very important in motivating members of the community to practice weed control. If the Shire is not fulfilling its responsibilities in the control of weeds, ratepayers will seldom feel obligated to make the effort. An advantage of having this Officer is that where Declared Plants are found to be on Shire land, action can be taken promptly rather than going through a Parks and Gardens Manager (or equivalent) which generally is a slower, less efficient process. Around 30 reserves and 58 roads are sprayed each year.

Support community groups and Landcare An ongoing source of conflict between landholders and the Shire has been the large infestations of lovegrass on road shoulders in Serpentine-Jarrahdale. Residents are concerned with the potential for these weeds to be a fire hazard. In conjunction with the Landcare Centre the Shire has implemented a 'Free Verge Glyphosate' strategy which offers one litre of glyphosate per year to landholders for the maintenance of their verge. This also runs in conjunction with the Landcare Centre's 'Free Verge Plant' program which supplies residents with natives trees and shrubs to plant on their verge with the aim of suppressing weed growth. This program also provides an opportunity to emphasise the message that to defeat weeds in the long term they have to be replaced. In a way the IWMS operates through the community by 'backing winners'. Helping motivated individuals to help themselves. The Strategy integrates

with Landcare projects in Serpentine-Jarrahdale providing the community with information to not only control weeds, but how to manage their land. The Weed Strategy Officer works in conjunction with Landcare staff to produce management plans for landholders to establish and maintain pastures, bushland and catchment areas. The integration of the control of pest plants into natural resource management and Landcare is the wider scope of the IWMS.

One of the original goals of the IWMS was to facilitate the formation of 'Weed Action Groups' to encourage landholders to make a combined effort towards weed control. It was found that rather than creating new groups, it was easier to promote the concept of weed control through existing community groups involved in landcare/bushcare. This is very effective in Serpentine-Jarrahdale as there are 18 landcare/bushcare groups spread out over the Shire, of which 10 have been assisted by the IWMS.

The suburb of Darling Downs in Serpentine-Jarrahdale consists of mainly five acre properties and has long had a serious Paterson's curse problem. With assistance from the Weed Strategy Officer, the Darling Downs Management Committee devised a strategy to organise a local contractor to spray properties in Darling Downs at a reduced price. The result was plenty of business for the contractor and just over 60 properties being sprayed for Paterson's curse.

The Serpentine-Jarrahdale Roadside Care Volunteers Committee (RCVC) is another highly motivated community group that has been very active in eradicating weeds. In conjunction with the Shire they have

initiated a 'Flora Roads Program' which involves the maintenance of road verges with a high conservation value, thus also controlling weeds.

CONCLUSION

As previously mentioned, the success of the Serpentine-Jarrahdale IWMS is difficult to measure scientifically. Anecdotal evidence from landholders suggests that weed infestations in the Shire have significantly reduced since the Strategy's inception. The most important characteristic of the IWMS is the integration of State Government, Local Government and the community. The further integration of the Strategy with Landcare is also crucial in the overall scope of natural resource management in Serpentine-Jarrahdale. Only with the cooperation of all these stakeholders can the IWMS successfully function. A weed strategy purely based on raising awareness and community involvement is less effective unless there is a regulatory function to support it. Conversely, an enforcement-based strategy would also prove ineffective if it were not integrated with community involvement and awareness raising. Only by working together against weeds can significant inroads be made into the problem in Serpentine-Jarrahdale. Alone we can do little, but together we can achieve a great deal.

REFERENCES

- Lyons, C. and Del Marco, A. (1999). Integrated Weed Strategy. WA Bankwest Landcare Conference, Esperance, Western Australia, pp. 116-118.