Reducing the risk of new weed introductions through strategic engagement

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Summary Research into the spread of weeds has found ordinary gardens are a major source of new weed introductions. As part of the Victorian Government's 'Moving Forward: Making Provincial Victoria the Best Place to Live, Work and Invest' initiative, the Department of Primary Industries (DPI) is delivering a four year, $3.6 million project entitled 'Improving Provincial Victoria's Biosecurity' (IPVB). This project aims to reduce the risks surrounding the introduction of high priority new and emerging weeds in identified provincial urban and lifestyle regions. Social research has identified that lifestyle regions are expanding, thereby increasing the threat of new weed introductions in provincial Victoria.

Strategic engagement with industries and communities whose activities are linked to high-risk weed introduction pathways in provincial Victoria provides an opportunity for proactive surveillance and the adoption of preventative actions to reduce new weed introductions.

The project's delivery is integrated with DPI's Weed Alert program.

Keywords Provincial Victoria, lifestyle regions, introduction pathways, Victorian Alert Weeds, biosecurity, engagement.

INTRODUCTION

It is estimated that eight new weed species establish in Victoria each year (Weiss 1999). Invasion pathways are any means that lead to entry or spread of pests. Pathway management is the most effective way to address unintentional introductions (Weiss *et al.* 2006).

Surveillance and response to weed invasion in Victoria is guided by the Victorian Pest Management – A Framework for Action (VPMF) Weed Management Strategy. The recently developed Weed Alert Plan Victoria is now a key strategic document guiding DPI's delivery of prevention and early intervention programs.

Parts of regional Victoria are enjoying a period of rapid growth in population, infrastructure, industry and investment. With their many gardens, provincial cities and surrounding lifestyle regions pose an ongoing risk for the introduction of serious new weeds to Victoria. Industry and community activities associated with these growth areas and linked to pathways of new weed introduction, are the focus of this project.

VICTORIAN ALERT WEEDS

To maximise Victoria's protection from potential pest plant biosecurity threats, the Improving Victoria's Provincial Biosecurity (IPVB) project is working with a suite of weeds referred to as Victorian Alert Weeds. These are new weeds to Victoria that have the potential to threaten the State's environment and agriculture. Some of these are thought to be naturalised in small numbers but still eradicable; others are yet to reach Victoria but present a significant risk if they were to arrive and naturalise. As these weeds are not declared under the *Catchment and Land Protection Act 1994,* there is no legislative barrier preventing their promotion, trade and movement around the State. Some 410 of these species are being assessed using the Victorian Pest Plant Prioritisation Process (Weiss *et al.* 2002), to identify the most serious threats. Through surveillance by the Victorian Weed Spotters network, the distribution of each species is validated to inform appropriate management strategies. The most serious will be recommended for declaration as noxious weeds.

RECOGNISING INVASION PATHWAYS

Weed spread pathways are many and varied, with examples include: naturally occurring (waterways); movement of inadvertently contaminated plant, equipment, goods, livestock or produce; deliberate introduction of plants, seeds and plant parts for business purposes; and deliberate or inadvertent introduction of plants, seeds or plant parts by community members. Different industries are involved in activities that can potentially introduce and spread new weeds. As gardens are the most significant source of new weed introductions (Groves *et al.* 2005), the IPVB project will focus its engagement activities in lifestyle regions on the management of new weed introduction pathways associated with the garden industry and community groups who have an interest in ornamental plants.

The IPVB project aims to understand the risk, location and introduction pathways of Victorian Alert Weeds. By educating and working collaboratively with the community, industries and agencies, the risk

of damaging new weeds being introduced may be reduced.

APPROACH

Theory of action Based on the 'Program Action – Logic Model' developed by the University of Wisconsin, a theory of action was developed for the project (Taylor-Powell *et al.* 1996). Key considerations were the desired project outcome, the current context in which the project was going to be delivered, the extent of change required for each stakeholder group, the selection of policy instruments and assumptions made relating to achieving practice change.

One of the most significant land use transformations taking place in Victoria is the expansion of the 'new' urban lifestyle (amenity) regions through a growing demand for rural living (Barr 2005). The lifestyle region provides a key focus for preventing the introduction and spread of new pests to Victoria. New species introduced through garden and landscape plantings can escape and threaten biodiversity, waterways, agricultural production and community assets. Engagement of agencies, industries, community groups and Weed Spotters involved in high risk introduction pathways, provides an opportunity for pro-active surveillance and adoption of preventative actions that will reduce the risk of introduction.

The project comprises two major components – the industry and agency component of the project that will have a focus across the central Victorian 'Lifestyle Amenity Region' and a more spatially discrete community component focusing on smaller priority regions (Figure 1).

The IPVB project used a Priority Assessment Framework to develop a ranked list of priority areas.

This comprised: potential/current distribution of previously assessed Victorian Alert Weeds; proximity to state borders and the major Hume Highway corridor; the number of households and potential gardens as an indicator of potential introduction points; and level of interface with social, environmental and agricultural assets.

INDUSTRY AND COMMUNITY ENGAGEMENT

DPI works proactively with a range of Victoria's key pest management stakeholders and has established strong partnerships with local government, industry, and the community. Understanding the needs and drivers for each stakeholder group has been essential to developing these relationships. The business activities of many organisations have the potential to introduce new weeds into Victoria (for example, the deliberate introduction of plants, seeds and plant parts for business purposes). This level of risk has increased in recent times, particularly where provincial cities interface with rural lifestyle areas. It is important to understand and work with these key segments of the community and industry to reduce the risks of introducing new weeds into Victoria.

The IPVB project aims to influence short term and long term behaviour change relating to weed management, in order to reduce the risk of introduction and incursion of high risk Victorian Alert Weeds in identified lifestyle regions. Industry and community mapping and stakeholder analysis has identified the stakeholders that are in the best position to assist with making these changes. They include environmental and non-environmental groups, industries and government agencies that can improve their surveillance capacity to spot and report Victorian Alert Weeds through the
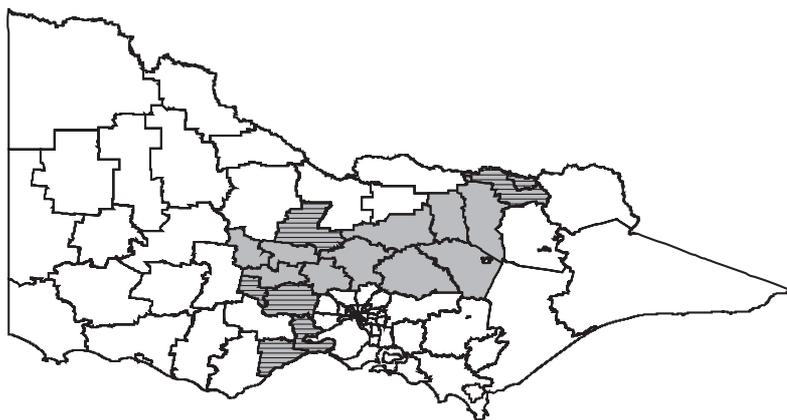
Figure 1. Project focus areas (by municipality) for industry (shaded) and community groups (striped) for tackling the introduction of high risk potential new weeds to Victoria.

Weed Spotter network. They also include community groups interested in ornamental plants, garden industry segments and government agencies who can assist with the development and implementation of mitigation strategies in high risk introduction pathways.

Stakeholder analysis The IPVB project has undertaken stakeholder analysis to inform the development of engagement strategies to achieve the desired changes sought by the project. Examples of these desired changes include increased surveillance of high risk Victorian Alert Weeds in identified lifestyle regions, and industry participants implementing risk mitigation strategies for introduction of Victorian Alert Weeds.

Stakeholder analysis of community groups in lifestyle regions of Victoria involved initial scoping to identify the number and types of community groups and network mapping to identify existing active or influential networks, communication channels, organisational structure and preferred means of engaging with groups.

Qualitative and quantitative data were collected from a sample of 144 telephone interviews and one focus group meeting with community group representatives. Quantitative data were compiled into a matrix across nine indicators: degree of influence; relevant activities; level of interest; active group; communication channels; knowledge awareness; attitude; skills; and potential to act. The resulting information provided valuable insights into why and how the selected community groups may change their practices in line with the changes sought by the IPVB project

Similar analysis of garden industry segments undertaken by DPI in 2005 was used to inform IPVB project engagement with this industry.

Engagement plans The engagement activities and products used to influence change have been tailored to meet the specific needs of each stakeholder as identified in the stakeholder analysis. An engagement plan has been developed for each project stakeholder group. Information, consultation, involvement, collaboration and empowerment are the engagement methods used to influence the type of change required in each stakeholder segment (Community Engagement Network 2005).

DISCUSSION
The IPVB project will focus on managing the introduction pathways of Victorian Alert Weeds as opposed to the more traditional management focus of tackling established weeds in rural segments. To provide certainty of project impacts in a changing environment, DPI's project management framework has been used. Key components of this framework have been the theory of action and project evaluation plan which will assist in measuring the project's progress and its impact.

The IPVB project will assist in reducing the risk of introduction and incursion of high risk Victorian Alert Weeds in identified rural lifestyle areas. This will lead to increasing weed management support to the community and reducing the future costs of weed incursions.

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