

indigenous (non-wetland) vegetation in the region at various time scales.

The biology, ecology and management of invading Australian environmental weed species are discussed and the 200 taxa are listed. Major reasons for their success as invaders in often high-quality indigenous vegetation are a suite of pre-adaptive biological attributes such as serotiny, long-term soil-stored seed banks, ability to thrive in low-nutrient substrates, generalist pollination syndromes (often involving birds) and generalist seed-dispersal syndromes. These attributes also make such species pre-eminent invaders of South African environments where many of the same species are destroying vegetation, fauna and catchment values.

Note

The full version of this paper will be published in a future edition of *Plant Protection Quarterly*.

NGIA initiatives in environmental weed management

Jolyon Burnett, Nursery and Garden Industry Australia, PO Box 907, Epping, New South Wales 1710, Australia.

Introduction

The Nursery and Garden Industry Australia (NGIA) has a long record of interest and pro-active involvement in minimizing the spread and impact of environmental weeds. This paper will explain the NGIA position, detail some of the initiatives NGIA has undertaken and make a plea for a commercially realistic and market driven approach to the issue of invasive plants in gardens.

Who to work with and what on

There are almost as many weed related groups, both government and others, as there are weeds. There is a national strategy, each State government has a strategy and many catchment management trusts and local government councils also have weed management strategies. Many of these strategies also include lists of plants deemed by the authors to be environmental weeds.

Very few of these lists, if any, are supported by any form of weed risk assessment. Most reflect the philosophical bent of the organization or author. This plethora of strategies and lists does little to advance the cause and results in a fragmented effort. Few if any of those involved have the resources to tackle what is, in effect, the changing of public behaviour. The solution to garden escapees requires the changing of public behaviour in what they buy and plant and how they manage and dispose of garden waste.

The nursery industry operates across state borders, across catchments and across local government lines. Plants produced under one jurisdiction can be grown on and retailed under another. The declared noxious weeds can be different across these boundaries, let alone the 'deemed' environmental weeds. Ultimately the industry must decide who has the necessary credibility, resources and understanding of the issues, both commercial and technical, to assist it in its campaign.

Part of the problem; part of the solution

NGIA has long acknowledged that the nursery industry has played a part in the introduction and dissemination of environmental weeds. Consequently the industry has a responsibility to be part of the solution. NGIA stands ready to play this part along with all other stakeholders. These include government at Federal,

State and local level as well as catchment management trusts and other non-government organizations.

Part of the problem can certainly be addressed at the supply end of the issue. Sound weed risk assessments should be done on all new plants entering the country. Those invasive plants that are posing a real risk to remnant bushland and other valuable ecosystems and are still in the trade need to be identified and removed. Encouraging sensible phase out periods along with identifying and promoting alternatives will ensure cooperation from industry.

Disposal of garden waste and trading of plant material between gardeners also plays a significant part. These pathways can only be addressed by public education. The public do not see their favourite plants as weeds. Moves to include Australian plants in weeds lists, without explaining to the public the basis for such classification, simply brings the whole idea of environmental weeds into disrepute.

Some certainty and consistency is required

The industry needs certainty on which plants are considered environmental weeds in which areas. Production nurseries supply throughout the country. Retailers purchase from across most States. The capacity for nurseries and the gardening public to recognise plants as potential weeds and stop using them needs to be understood. It is unrealistic to expect the industry and the public to remove 150 plants from the trade in one move. Some weed risk assessment must be done and some priority given to potential weeds. NGIA endeavoured to do this and came up with a list of 52, one for each week. Even this is optimistic.

NGIA has now secured National Heritage Trust funding to develop a process for identifying and prioritizing environmental weeds by catchment area. Plants can then be targeted as part of a measured phase out against agreed priorities. At the same time suitable alternatives will be identified and these can be promoted. This will allow the market to be diverted rather than cut off.

Working with appropriate groups including catchment management trusts and the Australian Bush Regenerators Association will ensure that the list is rigorous and locally focused. An audit of

nurseries will ensure that we target those plants that are being traded commercially. Different strategies may well need to be developed for plants that are traded among gardeners or are no longer in the trade but in gardens and being disposed of inappropriately. It is important to ensure that some form of assessment is undertaken to determine the seriousness and immediacy of the risk posed by particular plants. Plants such as agapanthus are unlikely to seriously threaten remnant bushland in the short to medium term.

Nursery production is a manufacturing process and plant production cannot be turned on and off at will. It is important to allow nurseries an appropriate phase out period when asking for plants to be removed from trade. This is simply commercial reality and does not significantly affect the end result.

Similarly, if alternatives are being proposed it is important that industry has been consulted and notice has been given so that the alternatives can be available to customers when they are promoted.

Flora for Fauna; a different approach

Flora for Fauna is aimed at using commercial marketing, together with the resources of other interested stakeholder groups to modify gardener behaviour. This relates in part to the planting, propagating and disposal of invasive plants. The aim is to put this issue in the positive context of the garden as habitat, rather than the negative context of weeds and 'Garden Thugs'.

Market research indicates that the public want to do something positive for the environment rather than being told they are causing problems. The same market research indicates a willingness to change their gardening behaviour to encourage wildlife into the garden and to see their garden as part of the larger environment. It is about using tried and true selling techniques rather than a lecturing approach.

The market for Australian plants is increasing and people are more aware of the environmental potential of their backyard. Flora for Fauna will encourage people to attract more birds, butterflies, and other wildlife to their garden, by buying certain plants and other products. Environmental weeds will be explained and discouraged.

Helpful, simple, practical information will be provided through participating garden centres and local councils aimed at showing gardeners how to do it. Initially this information may be simplistic, however the aim is to increase the sophistication and specificity of the messages over time as public understanding grows. If the public desire for Flora for Fauna plants outstrips the industry's ability to supply, the program will be seen as lacking substance. If industry produces plants too far

in advance of demand to purchase, the commercial viability of the program breaks down. The program requires a step wise approach to building public demand simultaneously with industry ability to supply. This means that the public will have confidence in the program and its aims.

Change takes time

Attempting to undertake the entire task of removing all suspect plants from sale too quickly will simply result in public backlash as happened when a list of 300 'weeds' was released to the media containing many well loved garden faithfuls and some Australia plants. Without an understanding of the issues the public simply saw this as kill joy behaviour on the part of overzealous experts.

The nursery industry is well skilled at meeting public demand. The industry accounted for over \$2.5 billion in retail sales in 1999. This was done in the face of significant competition from gambling, travel and sport. Competition not only for disposable income, but increasingly for peoples time and interest. To do this requires a sound understanding of what motivates purchases and gardening behaviour. Using these techniques and understanding it is possible, over time, to have a significant impact on the sale and spread of invasive garden plants.