

# Weed awareness in New Zealand

Improving public awareness of environmental weeds

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## CONTENTS

Abstract	5
1. Introduction	6
2. Weed initiatives	6
3. Weed campaigns	7
3.1 Australian Weedbuster campaign	7
3.2 Activities	8
3.3 Publications and merchandise	9
3.4 Audiences	9
3.5 Media	9
4. Co-ordination	10
5. Resourcing	11
6. Conclusion	12
7. Acknowledgements	13
8. References	13
Appendix 1	
An example of a weed awareness campaign for a single species	15

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### ABSTRACT

Community involvement is essential to the successful management of environmental weeds in New Zealand. Improving public awareness of environmental weeds requires the co-ordination of the several agencies involved with environmental weed management and demands both weed technical knowledge and community relations skills. The Department of Conservation is well placed to take a lead role in facilitating a weed awareness programme; a first step was to appoint a National Weed Awareness Co-ordinator.

Keywords: weed awareness, weed campaigns, community involvement, publicity, weedbuster, environmental weeds

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# 1. Introduction

Environmental weeds are rife in New Zealand, and growing apace. Many (75%) of our current problem weeds are garden escapes—nice plants turned nasty by virtue of the characteristics of the plant species and human behaviour (Buddenhagen et al. 1998). Worse, the next environmental weeds are already in New Zealand growing in those reservoirs of environmental weeds—home gardens and amenity plantings.

Weed wisdom has it that it is more efficient and effective to prevent weed establishment rather to control after the fact (Macdonald et al. 1989, Westbrookes 2000). Community involvement is essential to achieving this goal (Braithwaite & Timmins 2000). This means public awareness needs to be proactive rather than reactive. Thus, community awareness projects are a valid use of weed management resources.

We can involve the public in our battle against weeds by education and / or regulation. Education is preferable to regulation because it achieves commitment rather than just compliance. It may well be less costly too (Weeds CRC 1999). Many in the garden industry are keen to be environmentally friendly, but often they don't know the practices and plants which cause problems. Garden clubs and gardeners also distribute plants. Regulators are hard pressed to catch up with all these people. Far better to make them aware of the potential ecological impact of some popular garden plants and call on them to do their bit for conservation by growing safer alternatives. Gardeners do not usually plant invasive species intentionally. Given the right information, they would choose a safe plant—one that is not going to cause a problem for them or the natural environment (Slattery 1996). Buying from the internet is another, and growing, source of new plants (Lloyd 2000; Williams et al. 2000). Again, while regulation and border detection systems offer some protection, an educated gardening community will be an important defence against the oncoming flood of exotica. The public are both part of the threat and the solution to weed problems. Given this, the most successful weed awareness initiatives will include the 'WIFM' factor: What's in it for me?

## 2. Weed initiatives

A weed-aware public would greatly assist the Department of Conservation (DOC) in reaching many of its weed management objectives (as outlined in DOC's Strategic Plan for Management for Invasive Weeds: Owen 1998). In particular, objective 4 and section 5 specifically call for improving weed awareness. It would also be consistent with the Conservation Minister's call for a greater emphasis on communities and their involvement. The 'Conservation with Communities strategy' (DOC 2003) encapsulates DOC's intention to build an outward-looking culture in the Department.

Several other weed initiatives specifically call for an increase in community weed awareness and support, e.g. DOC's weed surveillance programme (Braithwaite 2000). This programme has already stimulated public awareness projects in several Conservancies and Areas. Undoubtedly the benefits of these initiatives will flow on to other aspects of the DOC's weed management. A list of Unwanted Organisms has been developed under the auspices of the Biosecurity Act 1993. The list provides for a ban on the sale and distribution of listed organisms. To be most effective, this ban needs a pest-aware public. A subset of these unwanted organisms is listed in the National Pest Plant Accord, Website for biosecurity awareness programmes: [www.protect.com.nz](http://www.protect.com.nz) [viewed: 1 July 2003]. The agencies participating in the Accord have agreed to make the public aware of the threat posed by these plant species.

## 3. Weed campaigns

The planned campaign approach is a proven tool for achieving community weed awareness. A campaign against a specific species invariably requires help from the public. Highly visible and distinctive species such as Chilean rhubarb *Gunnera tinctoria* are excellent candidates to spread the word not only about the particular species, but about the ecological impact of weeds in general (Appendix 1).

In Australia, the Cooperative Research Centre for Weed Management Systems (Weeds CRC)—a research group drawing on the resources and contributions of several allied agencies—has conducted several successful weed campaigns against environmental weeds in general. These campaigns included 'Weedbuster', 'Garden Thugs', and 'Garden Plants Under the Spotlight'. We could add a weed component to existing conservation campaigns such as Conservation Week, Arbour Day, and Clean Up New Zealand Week. However, to be truly effective, weed awareness needs its own campaigns, otherwise the message gets too diluted. Weed campaigns can be general or, preferably, focus on one serious issue such as early intervention. The issue can be encapsulated in a slogan, for example: *Nip them in the bud*, *Recognise the curse before it gets worse*, *Weed prevention is the intention*, and *Get to know your enemy* (Australian Weedbuster themes). The campaign can be short and intense, involving a deluge of simultaneous publicity, or it can be a longer campaign, perhaps a whole year culminating in a week of celebration, e.g. Australian Weedbuster campaigns.

### 3.1 AUSTRALIAN WEEDBUSTER CAMPAIGN

New South Wales held a Weed Awareness Week in 1986, 1990, and 1996. In 1994 Queensland held a Weed Awareness Week. That grew into Weedbuster Day in 1995 and 1996. The idea caught on, so in 1997 a National Weedbuster Week was launched and has run during the second week in October ever since

(see [www.weedbusterweek.info.au](http://www.weedbusterweek.info.au) [viewed: 1 July 2003]). The national programme is co-ordinated by a committee, with representatives from each state / territory plus the Weeds CRC.

Weedbuster has four aims:

- Raise public awareness of the problems weeds cause
- Publicise the connection between gardening and weed problems
- Inform the public on how to achieve sustainable use of the environment
- Foster community ownership of weed problems

The week involves weed-pulling days, displays and seminars, as well as public recognition of people and activities that have been important in controlling weeds over the past year (Vitelli et al. 1999). This is all conducted under the Weedbuster Week logo and often features the irascible woody weed character.

### 3.2 ACTIVITIES

Education works best when it is harnessed with action. Forgie et al. (2001) list nine advantages of involving the community in conservation activities including: building capacity, accelerating change, achieving a sustainable solution, and changing attitudes. They cite the old adage:

‘Tell me and I’ll forget; show me and I may remember;  
involve me and I’ll understand.’

A raft of activities could be used to improve public awareness of weeds: volunteer weed removal programmes, displays at shopping malls, wearable-weeds fashion parades, talks to school children, walks and gawks, training sessions, seminars, and weed expos. The objective and the audience determine which activities are appropriate.

School children in particular learn best through doing. In Australia, school children have helped raise biological control agents or been part of the Weed Warrior programme (for example see [www.ento.csiro.au/bridalcreeper](http://www.ento.csiro.au/bridalcreeper) [viewed: 1 July 2003]). A weed art exhibition is another idea. The uptake of these activities can be enhanced by tailoring them to fit school curricula.

Community groups can also be amenable to getting involved. In Australia, the Environmental Weeds Action Network has been established (<http://www.members.iinet.net.au/~ewan/> [viewed: 1 July 2003]). In South Africa, the Working for Water initiative is a successful programme which benefited from clever packaging of the ideas.

Building public awareness is the first step in facilitating community-based conservation initiatives (Forgie et al. 2001). A comprehensive collection of techniques for participatory natural resource management can be found at <http://www.nrm.massey.ac.nz/changelinks/ar.html> Along with each community activity it is important to explicitly measure the effectiveness of the activity against the *conservation* objective of the campaign (James 2001).

### 3.3 PUBLICATIONS AND MERCHANDISE

Catchy and consistent branding helps to get the message across—a logo or catch phrase quickly identifies the topic and helps reinforce the message. It also gives continuity so people can see all the activities and products are part of the same programme. Having a variety of products carrying a logo gets the weed message into many different environments: into schools on a ruler, into the home on a fridge magnet, to the streets on an athlete's drink bottle, or to the supermarket on a cloth bag.

In the last decade DOC has increased its output of weed publications, but sometimes, similar publications have been developed concurrently by two offices. An item produced by one Area Office can be of wider interest, e.g. a brochure on garden escapes, that was produced and paid for by Poneke Area Office, was requested by DOC offices throughout New Zealand. Similarly, many Regional Councils have published fact sheets on weed species of concern in several parts of the country. It would make sense if both DOC and Regional Councils made use of any relevant publications produced in Australasia (Blood et al. 1998b).

Some opportunities for increasing weed awareness can be very simple. For example, putting up a sign next to a weed control operation describing the detrimental effects of the weeds and what we hope to achieve by the control work.

### 3.4 AUDIENCES

Campaigns must be tailored to the target audience. This means the vehicle, the message, the language, and the activities must suit the target audience. These audiences include: gardeners, farmers, children, nursery and garden industry, landscape industry, horticultural media, botanic gardens, Regional Councils, and non-government organisations.

### 3.5 MEDIA

One of the best avenues for informing the public and influencing their gardening behaviour is through the horticultural media (Blood & Slattery 1996). It is important to build long-term relationships with media contacts, including regular sharing of information and attendance at relevant industry functions. DOC offices and Regional Councils do release weed stories to newspapers from time to time. However, one-off press releases are rarely effective. We need to develop relationships with the media based on mutual respect. We should treat the media as an ally that can help us immensely in our desire to increase public weed awareness.

Some DOC staffers, including weed staff, have already received media training. More media training will be required to ensure the spokesperson(s) for each campaign is media-confident and competent. We will also need to develop media kits—see Weeds CRC (1999) for details of what to include in the kits.



## 4. Co-ordination

Some issues are best dealt with at the local level; others are more generic and deserve national facilitation or co-operation between several agencies. Some projects could be developed by one DOC Area / Conservancy and then shared nationally. Others could be developed centrally and delivered nationally. Both approaches require co-ordination. This avoids duplication of effort. It also means that projects that would be prohibitive at a local level or for one agency, can be achieved by pooling resources. A common weed logo will give a sense of unity.

Weed awareness requires two groups of professionals to work in concert: those with weed technical knowledge, and those with community relations expertise. Within DOC, weed knowledge resides with several groups: weed scientists, Conservancy weed technical officers, and Area staff involved in hands-on management. Communication skills are also spread through the Department. In particular, media and public relations staff are housed in External Relations Division of Head Office and the public awareness / community relations staff are in the Conservancy and Area Offices. These different experts need a forum to facilitate their working together.

Developing an effective weed awareness programme requires some national co-ordination. National leadership of operational activity does not sit easily in the current DOC organisational structure, however, a National Weed Awareness Co-ordinator position has been established as a regional office position, housed at a conservancy, and funded from Biodiversity Funds for three years. We may also need several (3–8) regional working groups, plus a national co-ordination committee, preferably with both DOC and non-DOC members. The membership of the working groups could include: DOC weed technical officers, DOC community relations staff, a graphic artist, Regional Council biosecurity officers and media staff, a representative from the nursery and garden industry, and one from non government organisations. The national co-ordination committee might comprise the national co-ordinator plus regional co-ordinators (a representative from each of the working groups). The national committee might meet once a year to debrief from last year's activities and to plan the next year's campaigns and activities. More regular contact could be by telephone and email discussions. These co-ordinating roles would need to be specified in the job descriptions for relevant staff.

The responsibilities of the national co-ordinator / national committee could include:

- Developing relationships with national organisations, e.g. Nursery and Garden Industry Association, and with the horticultural media, e.g. *New Zealand Gardener*
- Gathering information on successful weed awareness programmes in other countries; investigating the feasibility of adopting others' ideas and brands
- Co-ordinating nationwide events, e.g. weedbuster activities
- Attending public awareness activities undertaken by DOC offices and Regional Councils

- Creating displays at large trade fairs, e.g. Ellerslie Flower Show; producing basic display material that can be adapted for local use
- Producing public awareness material of a general nature to be used by all Areas and Conservancies; fostering weed awareness initiatives at the local level
- Co-ordinating and fostering sharing of material between DOC offices and Regional Councils; sourcing good local material and disseminating it nationally
- Fronting media coverage to promote weed awareness
- Conducting and facilitating research into the effectiveness of public awareness activities in achieving stated conservation goals

Another essential element of effective weed awareness is networking between the various relevant sectors and agencies (Blood et al. 1998a). Relevant interested groups include: Biosecurity Officers Institute, Regional and District Councils, Ministry of Agriculture and Forestry, Ministry for the Environment, Landcare groups, Transit, and TranzRail. Co-ordination is hard to achieve with a decentralised DOC and 13 separate territorial authorities, but it has been achieved before. The Old Man's Beard Research Group had representatives from several government agencies, Regional Council, and non-government agencies, and co-ordinated public awareness and research on old man's beard (*Clematis vitalba*) nationally. The Hieracium Trust has done the same for hawkweeds (*Hieracium* spp.) The South Island Wilding Conifer Strategy involves inter-agency co-operation. Similarly, groups were created to co-ordinate consultation with Regional Councils on what became the Biosecurity Act 1993, e.g. Biosecurity Technical Advisory Group (BTAG). Currently, representatives of Regional Councils meet regularly as the Biosecurity Managers Group. DOC is well placed to initiate co-ordination because it is a national organisation with a countrywide network of offices.

It may be preferable for the national co-ordinator to have a good technical background in weeds and, if needed, acquire the necessary communications skills. Either way, the national co-ordinator role demands both sets of skills. Research skills would also be useful—both those to conduct research and an ability to assess proposals.

## 5. Resourcing

To achieve the requisite level of community weed awareness may mean some clarification of roles and re-allocation of DOC resources (both money and people). Community awareness projects are a valid use of weed management resources (and vice versa).

Apart from the obvious requirements for resources for publications and people, resources will be needed to cope with public response to public awareness campaigns, including the flood of phone calls, queries, sightings, and the necessary follow-up (Braithwaite 2000). Corporate sponsorship is a good way to provide for branded merchandise.

Beyond re-allocation within the weed budget and/or the community awareness budgets there are several other appropriate sources of funding within DOC: Green Package funds, the Conservation Awareness Funding, and New Zealand Biodiversity Strategy funds. Outside of DOC, possibilities include sponsorship, grants, or contributions from other like-minded agencies such as Regional Councils.

The weed awareness initiatives suggested above, would benefit from regular discussion both within DOC and with other agencies, e.g. at the national DOC Weed Technical Officers meeting and the Biosecurity Officers National Education and Training Seminar. Possible funding streams should be explored and DOC should also investigate the possibility of working in a co-ordinated fashion with all thirteen regional authorities, the Ministry of Agriculture and Forestry, and appropriate city councils. All these agencies, like DOC, have a growing appreciation for the important role of public awareness in environmental weed management.

## 6. Conclusion

A weed-aware public is imperative if we are to stem the growing tide of environmental weeds. First, as people are very effective dispersers of plants, the general public contributes, often unwittingly, to the worsening environmental weed problem. The number of people involved in spreading invasive weeds is vast. Second, the public could play a vital role in turning the problem around. This must go beyond passive acceptance of weed control operations on DOC-administered land. What is needed is hundreds of thousands of gardeners to change their behaviour in their own 'patch'.

This sort of persuasion requires the marriage of two sets of skills: weed know-how and community relations expertise. DOC has such skills and personnel. What is required is co-ordination so that the required skills are woven together to best effect, and so that skills, products, and resources are shared nationally. Co-ordination would avoid duplication, promote sharing, and thus enthuse and energise staff. Products that explain broad weed issues and carry a national message would be very useful, but are often too expensive for one conservancy—or even DOC alone—to produce. Some resources have been allocated from the Biodiversity Funds to initiate a national weed awareness programme, but the initiatives described above will require further resources. DOC and other weed management agencies stand to reap huge benefits from the investment. Improved weed awareness will allow us to take the public with us in our battle against weeds and hopefully enlist their practical support.

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# Appendix 1

## AN EXAMPLE OF A WEED AWARENESS CAMPAIGN FOR A SINGLE SPECIES

Potential initiatives to improve the public awareness of Chilean rhubarb (*Gunnera tinctoria*) as an environmental weed. This table is from Williams, P.A.; Ogle, C.C.; Timmins, S.M.: Biology and ecology of Chilean rhubarb (*Gunnera tinctoria*) and its conservation impacts in New Zealand (in prep.).

TARGET: FARMERS	
Ultimate audience	Farmers
Messages	Impacts on farming—blocked drains Ecological impacts and spread of Chilean rhubarb Clear drains and gardens of Chilean rhubarb Do your bit to help protect local natural areas
Vehicles for messages	Face to face chats with farmers neighbouring protected natural areas Federated Farmers newsletter ( <i>Straight Furrow</i> ) Country Calendar on TV; Rural programme on National Radio Dairy tanker drivers—sign at Kiwi dairy factory, encourage spotting
Actions	Find an alternative, safer dramatic plant species Develop strategies to cope with sightings and concomitant followup Establish contacts to connect with the agricultural media Establish contacts for dairy farmers, tanker drivers
TARGET: LANDSCAPERS AND DESIGNERS	
Ultimate audience	Gardeners
Messages	Impacts on farmers and natural areas Don't promote, recommend or plant Chilean rhubarb Advocate a safer alternative
Vehicles for messages	Trade journals, horticultural magazines Landscape Architects association newsletter, conference Talks at landscape training courses Presentations to professional horticultural societies
Actions	List contacts and organisations Prepare newsletter articles; press releases, conference presentations
TARGET: NURSERIES, GARDEN CENTRES, GROWERS	
Ultimate audience	Landscapers, gardeners,
Messages	Don't grow, sell or advocate Chilean rhubarb Promote safer alternative plants
Vehicles for messages	Nursery associations, specialist growers groups, horticultural society Trade journals and horticultural magazines University/ technical institute courses Biosecurity officers

Continued next page >>

TARGET:	HORTICULTURAL MEDIA (WRITER / PRESENTERS IN TV, RADIO, PRINT, WEB)
Ultimate audience	Landscapers, gardeners
Messages	Ecological impacts Don't promote Advocate safer alternatives
Vehicles for messages	Media kits and images
Actions	Duplicate quality slides Talk with horticultural media
TARGET:	BOTANIC GARDENS (INCLUDING ZOOS, OPEN GARDENS)
Ultimate audience	Landscapers, gardeners
Messages	Don't plant Chilean rhubarb Remove garden plants, or at least remove flower stalks Spread the word to fellow gardens/gardeners If keep plant, put up interpretation sign describing its ecological impact
Vehicles for messages	Royal Horticultural Society NZ Botanical Society (herbaria) Botanical Gardens Association
TARGET:	REGIONAL COUNCILS
Ultimate audience	Biosecurity officers, farmers, gardeners
Messages	Need to institute control strategy Ecology and impacts in natural areas, farms Spread the bad word about impacts; Promote safe alternatives
Vehicles for messages	Management recommendations and alternatives Co-operative working groups between management agencies Information kits and images
Actions	Biosecurity Officer inspections of nurseries Resource sharing between management agencies
TARGET:	DEPARTMENT OF CONSERVATION
Ultimate audience	Weed, community relations and field staff at all levels in DOC; Regional Council staff, recreational groups
Messages	Need to increase awareness of this weed (and others) Clarify responsibilities
Vehicles for messages	Training about weed surveillance
Actions	Community relations and weed technical staff working together Implement public awareness strategy
TARGET:	RECREATIONAL CLUBS
Ultimate audience	Trampers, campers, horse riders, mountain bikers, naturalists, four wheel drivers, hunters, fishers, boaties
Messages	Dig out Chilean rhubarb from your garden or farm Watch for Chilean rhubarb in natural areas; tell local DOC Tell your friend about the weediness of Chilean rhubarb
Vehicles for messages	Forest & Bird, ECO, and Federated Mountain Clubs newsletters Talks, activities with schools, scouts, guides, service groups
Actions	Adopt Chilean rhubarb as mascot for wider weed awareness